DOCUMENT RESUME

ED 262 587 FL 015 251

AUTHOR Fisiak, Jacek, Ed.
TITLE Papers and Studies in Contrastive Linguistics, Volume Ten.
INSTITUTION Adam Mickiewicz Univ. in Poznan (Poland).; Center for Applied Linguistics, Arlington, Va.
PUB DATE 79
NOTE 142p.; For other issues of this journal, see FL 015 248-256.
PUB TYPE Reports - Research/Technical (143) -- Collected Works - Serials (022)
JOURNAL CIT Papers and Studies in Contrastive Linguistics; v10 1979

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Communicative Competence (Languages); Comparative Analysis; *Contrastive Linguistics; *English; Finnish; Interlanguage; Language Research; Language Variation; *Phonology; *Polish; Pragmatics; Sociolinguistics; *Structural Analysis (Linguistics); Suprasegmentals; Verbs

ABSTRACT

This issue of the journal includes these papers on contrastive linguistics: "A Question of Imperatives" (Tom Wachtel); "Contrastive Sociolinguistics--Some Methodological Considerations" (Karol Janicki); "How to Describe Phonological Variation" (Thomas Herok, Livia Tonelli); "Towards a Contrastive Pragmalinguistics" (Philip Riley); "The Perception and Imitation of Aspiration by Polish Speakers" (Danuta Wolfram-Romanowska); "Some Aspects of the So-Called Verbal Deletion in English and Polish" (Malgorzata Gorna); "The Transfer of Communicative Competence" (Carl James); "Equivalence in Phonology: The Case of Finnish Stops vs. English Stops" (Kari Suomi); "Towards a Pedagogical Contrastive Phonology" (Wieslaw Awedyk); and "Contrastive Studies and Interlanguage" (Janusz Arabski). (MSE)

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THE POLISH-ENGLISH CONTRASTIVE PROJECT

PAPERS AND STUDIES IN CONTRASTIVE LINGUISTICS

VOLUME TEN

ED262587

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Proof Reading: Andrzej Pietrzak

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Nakład 1300+100 egz. Ark. wyd. 10,75. Ark. druk. 9,0. Papier druk. sat. kl. III. 80 g 70×100. Oddano do składania 18 V 1978 r. Podpisano do druku 27 IV 1979 r. Druk ukończono w maju 1979 r. 725/139 J-2 Cena zł 65,–

DRUKARNIA UNIWERSYTETU IM. ADAMA MICKIEWICZA – POZNAŃ, UL. FREDRY 10

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A QUESTION OF IMPERATIVES

TOM WACHTEL

Adam Mickiewicz University, Poznań

The major existing analyses of the imperative are inadequate in the arbitrariness they ascribe to the surface form. A non-arbitrary analysis is presented here,[1] which accounts for both the command force of an imperative and for its surface form, and explains why this form should exist, with this force, in pragmatic and universal terms.

Consider first, however, the arbitrariness which the two major modern existing analyses of the imperative ascribe to the surface form. The first of these is the syntactic transformational (e.g. Katz and Postal 1964) which posits an underlying structure something like (2) for (1).

1 Leave!
2 IMP you will leave

The Imperative transformation applies to (2), triggered by IMP, and derives the surface form (1). The second approach is the generative semantic/performative (e.g. Lakoff 1971; based on Austin 1962; Searle 1969) which posits an underlying structure like (3) (loosely represented as (4)) to which certain rules apply to derive (1). Here, (3) incorporates Ross's (1972) analysis of action predicates, involving DO.

3 COMMAND (x, y, DO (y, *leave*(y)))
4 I order you to leave

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[1] Presented at the 12th International Conference on Polish-English Contrastive Linguistics, Uniejów, Poland, May 1977. The ideas discussed here were originally presented in Wachtel (1976: chapt. 4). I am grateful to Patrick Griffiths, David Reibel, Anthony Warner, John Green, George Horn, and Grzegorz Dogil for their help and comments on an earlier draft.

These are attempts to account for the surface forms of imperatives, and for the meaning relationships between them and other fuller sentences with clearly similar meanings (cf. the underlying forms, above). However, they are both arbitrary in their explanation of the surface forms in that they fail to provide an explanation of why the devices they involve should operate, why such forms should exist, why language should be like this at all. Why, for instance, should *you* and *will* be deleted to form the surface imperative form? Deletion is as arbitrary as, for example, moving them to the end of the sentence, or inserting *scoobie-doo*, so that the form of the imperative would be either (5) or (6).

5 *Leave you will!
6 *Scoobie-doo-leave!

Or, why is it not the case that commands only appear as either (7) or (8)?

7 You will leave
8 I order you to leave

Why should a specific 'imperative form' exist, when these sentences are adequate commands?

Consider, further, the arbitrariness implicit in Katz & Postal's (1964:74ff.) treatment of imperatives and questions, where they posit *I* (=*IMP*) as the underlying imperative morpheme and *Q* as the underlying question morpheme. Subsequent Imperative and Question formation transformations, specifing these morphemes, respectively, delete them, as well as performing other deletion and reordering processes.

The actual surface form of questions may be considered arbitrary. Subject-Verb inversion, WH-fronting, and so on, are arbitrary markers of interrogation, and not universal features of language: English fronts its WH-word, Chinese doesn't; English inverts for truth-value questions, Polish uses an initial question morpheme, Chinese and Fulani a final one, and so on. Thus the form that the interrogative takes in any particular language is arbitrary.

Katz & Postal's treatment of imperatives, however, parallels their treatment of questions. Just as *Q* triggers certain rules, so *IMP* triggers certain other rules, which result in the surface form. Nevertheless, there is a great deal more consensus among languages with respect to the imperative form — a subjectless bare verb stem — than with respect to the question form. (This startling degree of uniformity is examined in more detail below.) Their analysis obscures this fact.

It is not disputed here that the surface forms of questions are arbitrary, or that the form of any other syntactic construction may be arbitrary. It is disputed that all such forms are necessarily arbitrary, by the nature of language. In particular, it is disputed that the imperative form is just as ar-

bitrary as the question form, as is implicit in the Katz-Postal account, which is based on deriving each from an abstract underlying morpheme. If a functional explanation exists, then it must not be obscured by the otherwise prevalent arbitrariness.

Recall that the traditional grammarians' approach to the imperative also ascribes arbitrariness to the surface form: "With an imperative it is generally unnecessary to add the subject" (Jespersen, 1933: 102). Apparently it just so happens that a sentence consisting of a tenseless verb without a subject (or with an 'understood' *you*) has the effect of a command. This 'surface structure analysis' of the imperative has recently been revived, in Downes (1976), where the fact that imperatives have the force of commands is considered to be purely a part of pragmatics, and not syntax/semantics, and the illocutionary force of imperatives ("main clause infinitives") is accounted for by a pragmatic interpretive rule. Thus it is considered incorrect to represent this illocutionary force by IMP or COMMAND, and the only linguistic analysis considered necessary is the surface structure one. This structure has the illocutionary force potential of a command, and if the preconditions (as, e.g., in Searle 1969; see below) are met, it has this illocutionary force. According to this analysis, there is no more to the imperative, linguistically, than there is to any sign — a beckoning finger, for instance. Thus the traditional grammarians' arbitrariness is clothed in pragmatics.

This is an unsatisfactory and arbitrary dismissal of the imperative, and is in no way an explanation. It ascribes the same arbitrariness to the surface form, in that the pragmatics involved deal with a much wider range of signs than just the imperative, and there is not considered to be anything in imperatives, linguistically, that has anything to do with commanding. Since there is no such connection, the form must be considered arbitrary. It does have the merit of acknowledging the interpersonal aspect of commanding, the importance of which will be developed further below.

The two accounts discussed above, on the other hand, say: "Look at all this machinery. This is how it works. This is the structure of language", but without saying why this should be so, why this particular bit of linguistic machinery should have this effect. The simple question here is why the imperative has the form and effect it does, if this is not arbitrary? Thus, not "How does it work?" but "Why does it work?".

The present analysis claims that it is the bare stem that is used as an imperative (and not an 'imperative form'), and that this is not an arbitrary choice, but results from the fact that an imperative is intended to be taken as an answer by one speaker to his interlocutor's hypothetical question: *What shall I do now?*. The hypothetical question is represented as *What shall I do now*! throughout. It is stressed that it is the meaning of this question that is important, and not the form. That is, it could equally well be represented as

What do you want me to do! or *What must I do!*, or any other form which expresses the authority relationship and invites a command. The 'answer' to this question is, e.g., *You shall leave now*, but normal syntactic rules operate to delete repeated material, thus leaving only the bare stem: *leave*. The fact that this form is subjectless, tenseless, etc., indicates the pragmatic presupposition of the existence of the hypothetical question, and thus establishes the necessary authority relationship. No such question is actually asked, but the use of the bare stem indicates that the speaker is acting as if it had been, which is what the imperative is about.

English is used to exemplify the pragmatic and syntactic aspects dealt with below. However, since the nature of the analysis suggests that it is universal, data from fifteen other languages is presented in the appendix.

Considering what is involved in giving a command, let us turn to Searle's (1969 : 62) "Rules for the use of the illocutionary force indicating device". These are conditions which must be fulfilled for a sentence to have a certain illocutionary force. Consider what Searle (1969 : 64) has to say on giving an order: "The preparatory conditions include that the speaker should be in a position of authority over the hearer, the sincerity condition is that the speaker wants the ordered act done, and the essential condition has to do with the fact that the speaker intends the utterance as an attempt to get the hearer to do the act". The conditions in Gordon & Lakoff (1971) (in the form of meaning postulates) are equivalent to these conditions. These deal with sincerity and wanting the act done by the addressee. The authority aspect seems to have been neglected by linguists, since, presumably, this is a social issue and not a linguistic one. This erroneous and far-reaching conclusion needs to be remedied.

A command with no authority behind it will not work (thus Searle's conditions). Where does this authority come from? It is clearly a purely social (non-linguistic) matter. Either A has authority over B, or he does not. Consider, however, the cases where there are no overt signals of authority, i.e. between peers. Here this is being taken to mean people who act as if they were peers, people who interact in a situation with no overt signals defining their relationship. Such is the bulk of everyday interaction. The question is where the authority behind a command comes from in such a situation. Or, how is the authority to give a command established between individuals who are in no authority situation/relationship already?

There are two possibilities: the deferent and the assertive. The authority relationship may be established by deference on the part of the party wishing to rule (Uriah Heep) or by assertiveness on the part of the party wishing to rule (the *macho* way). Either you wear the trousers, or you put them on someone else (counter respectively). In each case there are two ways of doing it: the explicit and the implicit.

Deference The explicit way is simply to state that the authority relationship is such.

9 Your wish is my command
10 At your service
11 Awaiting further instructions
12 I'm 'umble, I am

The implicit way to establish the other's authority is to ask a question whose basic form is (13).

13 What shall I do now?

The utterance of this signals that the utterer wishes to be given an order, that his interlocutor has (according to him, which is all that matters) the authority to tell him what to do, to issue an order which will be obeyed. It is not an explicit assertion of deference; the actual specification of the authority relationship is pragmatically presupposed (Stalnaker, 1974) by the speaker, on uttering something like (13).

Assertiveness The explicit way to indicate that one believes himself to have the authority is to declare it:

14 As your commanding officer...
15 I'm the boss around here
16 Because I'm your mother!

The implicit way to establish one's own authority is to assume that one's interlocutor has already conceded the authority, just as the implicit deferential way is to assume that the opposite authority relationship has been established. One way of doing this is to act linguistically as if one's interlocutor has implicitly established one's authority by a question such as (13), above. The best way to do this is to answer the question, and indicate, by syntactic deletion, that even if no such question was actually asked, one is acting as had if it been, and the 'answer' is to be taken as such. To assume this hypothetical antecedent (a pragmatic presupposition) results in utterances of the following type.

17 A: (What shall I do now?)
B: (You shall) *Go home*

This results in a so-called 'imperative form'. Only the bare stem remains. By deleting *you* and *shall* (which is here to be taken as representing the set of modals, real or abstract, that might be used here, *e.g. must, should*, ...), B is treating them as repeated items, thus implying their presence in a previous utterance, namely, one of the same logical (though not necessarily lexical) form as the one given here. Thus the form of the imperative implies that it is

the answer to a question which is itself an implicit signal of deference. Thus, by a sort of transitivity, an utterance of "imperative" form is an implicit assertion of authority. It is precisely for this reason that an "imperative" has the force of a command.

The same analysis in terms of the performative analysis leads to a question-and-answer pair (corresponding to (17), above) of the following general form.

18 A: (What do you command me to do now?)
B: (I command you to) *Go home*

Or something like (19).

19 A: (REQUEST (A, B, COMMAND (B, A, DO (A,__ (A)))))
B: (COMMAND (B, A, DO (A,) *Go home* ((A)))))

A completely atheoretical account will do equally well: the imperative form is simply that action which is being asked about in the hypothetical antecedent question. If question words, such as *what*, are considered as variables in a general conceptual representation (see Lo Cascio 1976), then the imperative is the proper name (or constant) that is substituted for that variable, thus making the general conceptual representation more specific. Thus, for B to say no more than that proper name, i.e. *go home*, is to imply that A requires this particular specification of some variable. Thus the hypothetical "conversation" might be (20).

20 A: (What I shall do now is x)
B: (x is) "*go home*"

This corresponds to the equivalence between (21) and (22).

21 A: What is two plus two?
B: Four
22 A: 2+2=x
B: x=4

It is clear that such an analysis explicitly specifies the link between authority and commanding, and explains where the covert authority of the "imperative form" is derived from. As such, it is already superior to the analyses discussed earlier, where authority is a separate pragmatic condition on the speech act of commanding, and unrelated to the surface form. The important point here is that the imperative is the "answer" to a hypothetical question. This question is in a sense being imposed upon the addressee by the issuer of the command. Although it never happened, they both behave as though it had.

There follows some evidence which supports the above analysis by showing that the pragmatic and syntactic features involved are crucial in related but different parts of the language, and are therefore not ad hoc.

Consider the similarity in surface form between commands and suggestions, pieces of advice, and other such forms. This is due to the fact that these are the result of the same type of process: a suggestion, for instance, is the answer to a (possibly hypothetical) question requesting a suggestion; the same is true for advice-giving, where the question requests advice. The difference between commands, suggestions, advice, and so on, corresponds exactly to the preconditions for the particular speech act involved. Thus, a suggestion does not involve the same type of authority relationship as a command ,but it does involve a specific relationship. This difference is specified by the difference in the hypothetical question assumed to have been asked.

23 A: (What do you suggest I do now?)
B: (I suggest you) *Go home*

24 A: (What do you advise me to do now?)
B: (I advise you to) *Go home*

Note, further, the restaurant situation, in which a customer may order his meal by using a series of NPs.

25 Soup, ratatouille, and a Wonder Ice Cake

This ellipsis is made possible by the fact that the interlocutor roles are obvious in the given context. The customer/waiter relationship may be specified in a question-and-answer format.

26 A: (What do you want me to bring you?)
B: (I want you to bring me) *Soup, ratatouille, and a Wonder Ice Cake*

Suggested answers to one's own questions also have the same surface form.

27 What did he do? Go home!
28 Where have you been? In London!
29 What do you want me to do now? Mow the lawn!

These "imperatives" are clearly not commands. They differ from true suggestions in that they are overtly suggested answers to questions, which true suggestions are only covertly (and to a different question). It is much more transparent in these cases that the utterances in question, identical in form to command "imperatives", are the result of deletion specified by the antecedent question, and also that they are suggested specifications of variables. Note that the utterances in (27 - 9) have no illocutionary force in terms of their propositional content: *go home!* in (27) is not a question about going home but

one about whether the proposition expressed (elliptically) by *go home* is the true answer to the first question.

Straightforward answers to ordinary questions also exhibit the same type of ellipsis.

30 A: How's your father?
B: (My father is) *Fine*
31 A: What's the time?
B: (The time is) *Four o'clock*
32 A: Where's my supper?
B: (Your supper's) *In the fridge*
33 A: What's on TV tonight?
B: *Kojak* (is on TV tonight)
34 A: How long has he been out of jail?
B: (He has been out of jail) (*for*) *Three weeks*
35 A: What's he going to do?
B: (He's going to) *Kill the cat*

Note that *Kill the cat* is not a command in (35).

This phenomenon is well known and has been for a long time. Postal (1964 : 34) says of these "fragments" (also referred to as "semisentences"): "occurrence in isolation permits no interpretation at all. And their interpretation in context is directly determined by, and does not involve an elimination of fixed interpretations inappropriate to, the context". The point to be made here is that exactly the same process goes on in the production of imperatives as in the 'ordinary' answering of questions. This is very strong evidence in favour of the present analysis of imperatives. The only difference is that, with imperatives, the question being answered (whether or not it was literally asked) is of a very specific nature. Consider why the fragment *go home* in (36) would permit no interpretation at all if it was in isolation (which it isn't), whereas the same fragment in (17) is not meaningless, although it is in isolation, i.e. there is no overt antecedent question.

36 A: What will John do next year?
B: (John will) *Go home* (next year)
17 A: (What shall I do now?)
B: (You shall) *Go home*

The answer, of course, is part of general conditions on deletion and recoverability. Clearly, fragments such as these cannot be answers to just any covert question whatsoever. This would clearly make context-dependent interpretation impossible. Thus the covert questions are highly restricted in nature, and in fact strictly linked to the specific relationship holding between questioner and answerer in terms of authority, advisory capacity, and so on. When such

a relationship is established, when such a context is clear, then the 'imperative' answer can be treated as a reply to a hypothetical question consistent with this context.

The point that these straightforward answers to questions exhibit the same type of deletion is crucial here. It is the existence of this type of deletion that enables the implicit assertive way of establishing authority to work. The beauty of the present case lies in the way this common linguistic process has been exploited in the use of language by people behaving linguistically as if there had been an utterance of a specific type when there had been none. The subtlety lies in the fact that the success of this strategy depends on the identity conditions which permit deletion; these are common to all deletion rules. Because of the nature of surface structure constraints in English, a speaker of English knows that certain material has been deleted from a sentence like (1).

1 Leave!

Because of what he knows about identity conditions on deletion, a speaker of English who utters (1) is acting as if there had been an utterance of a certain type uttered just before his utterance of (1). If the speaker and his interlocutor do not act as if there had been such a preceding utterance, then (1) is ungrammatical; it can easily be shown by the speaker that this is not so. This apparent flagrant violation of conditions on deletion, then, indicates that it is to be taken that a suitable antecedent occurred. Thus the existence of this hypothetical antecedent is a conventional implicature (Grice 1968) on the part of the person who utters (1). The importance of this point is that, in English, the imperative command is the only form exhibiting this type of deletion that appears without a surface subject and also without an antecedent occurrence of the subject, which would normally permit deletion. This strongly suggests the pragmatic presupposition of a suitable antecedent, and this is a question of the *What shall I do now*? type.

Further supporting evidence comes from commands of the form of "whimperatives" such as (37), and "fractured whimperatives" such as (38).

37 Why don't you pipe down
38 Pipe down, why don't you

(38) is derived from (37) by a rule of "fracturing" (Sadock, 1974). Although *pipe down* in (38) looks like an 'imperative form' command, it is clear that it is not derived by any sort of 'imperative-formation' rules. It is simply the fronted verb stem of the whimperative. This is a clear case of the verb stem of the whimperative. This is a clear case of the verb stem, as such, being used as a command. The evidence is of course only available in a language which uses fracturing, like English.

Consider now some supporting evidence that stems from a possible objection to this analysis. In the appendix, evidence in support of the bare stem analysis is presented from a number of different languages. Only the *you*-sing., or 'abrupt', forms are considered here. It may be objected that other forms are also used as imperatives in various languages, and that argue against the analysis. In fact, corroborating evidence of a very interesting kind comes from these forms, in spite of the fact that these are stem+affix forms.

Consider first that the two other principal forms used as commands, and often called 'imperatives', are the subjunctive and the infinitive. Their use is widespread in many languages. Spanish, Italian, and Polish will be used to exemplify the point here. Consider the following forms. (The attitudinal overlays that distinguish between these forms will not be discussed here.)

Spanish:	que beba	'drink'
	that drink-you (pol.)-subj.	
	beber	'drink!'
	drink-inf.	
Italian:	parli	'speak!'
	speak-you (pol.)-subj.	
	parlare	'speak!'
	speak-inf.	

(In Italian, the infinitive as command is more common in the negative: *non parlare* 'don't speak!'.)

Polish:	żebyś pchał	'push! (or else..)'
	that-you (fam.)-push-subj.	
	pchać	'push!'
	push-inf.	

The important question is whether it is arbitrary that these two marked forms are used as commands in these (and many other) languages. Why does one not find the past tense, for instance, used in this way? Clearly the choice is not arbitrary. In that case, what is the explanation?

Note how these forms relate to ways of asking a question about a future action in these languages. The following are all ways of saying *What do you want me to do*? and *What shall/must/should I do*?, which are the key questions here.

Spanish:	?Qué quieres	que haga?
	what want-you	that do-I-subj.
	?Qué tango que hecer?	
	what must-I	do-inf.

Italian:	Cosa vuoi	che faccia?
	what want-you	that do-I-subj.
	Cosa devo	fare?
	what must-I	do-inf.
Polish:	Co chcesz	żebym zrobił?
	what want-you	that-I-do-subj.
	Co mam zrobić?	
	what am-I-(to)	do-inf.

The particular lexical items *tengo que, devo,* and *mam* are like *shall* in (17), above, representing a set of items that might be used here. In these questions, the subjunctive is used for perfectly regular reasons, dependent on the syntax and semantics of questions. A full answer to the subjunctive questions could be the following, for *I want you to* ——————.

Spanish:	Quiero que beba
	want-I that drink-you (pol.)-subj.
Italian:	Voglio che parli
	want-I that speak-you (pol.)-subj.
Polish:	Chcę żebyś pchał
	want-I that-you (fam.)-push-subj.

If we remove *quiero, voglio che,* and *chcę* (which are repeated material, controlled by the question) from these answers, we are left with the subjunctive 'imperative' forms, and this holds for all the various 'persons' that might be used here. The difference between Spanish and Italian is that the former retains the complementizer (like Polish) and the latter deletes it, though in neither case is this an absolute rule.

Exactly the same situation obtains for the full answers to the infinitive questions.

Spanish:	Tienes que beber	'You must drink'
	must-you drink	
Italian:	Devi parlare	'You must speak'
	must-you speak	
Polish:	Masz pchać	'You are to push'
	are-you-(to) push	

If we remove *tienes que, devi,* and *masz* (repeated material), we are left with the infinitive 'imperative'.

Thus we see that it is not only in 'abrupt' imperatives that we see the operation of the assumption of a covert question. Subjunctives and infinitives

are also used as commands because they are used in answering questions about future action. Deletion signals the fact that the material is to be taken as repeated. If we do not accept the present analysis, then we disregard the parallelism between ways of asking/answering questions and ways of commanding. The data suggests that we can 'answer' a covert question of this type by either using the verb form of whatever the full answer would have been (infinitive or subjunctive), or by also deleting the markers indicating these forms, and using the bare stem only.

Another possible objection to this analysis is that it is appropriate only for a subpart of imperatives, including advice, suggestions, and so on, but does not cover commands where a covert question is implausible, such as (39).

39 Get off my toe, you bastard!

The present analysis does not claim, however, that there is an actual underlying question before every command, to which the command is an answer. That would imply that for every command there exists at least one potentially willing commandee, which is not necessarily true. What is claimed is that the utterer of a command in the form of an imperative acts as if there had been a preceding question, that this is indicated by the use of deletion rules which are triggered by this hypothetical antecedent, and that this is where the illocutionary force of a command comes from — the command-issuer linguistically forces his addressee into a position where they are both acting as if he, the addressee, had asked the question. In the case of imperatives like (39), although it is clear that it didn't happen, they both act as though it had — even if he refuses to get off his toe, because he has nevertheless understood the meaning and force of the command, but simply chosen not to obey.

Thus we see that the form of the so-called 'imperative' can be accounted for in a non-ad hoc manner in terms of establishing, by implicature, of an authority relationship between two people. The relationship is covertly established by the issuer of the command, and can be specified by a hypothetical question-and-answer dialogue. The advantage that this has over the 'solutionist' analyses discussed earlier is that it not only derives the surface form from a well-motivated underlying form, as the solutionist analyses do, but also explains why this derivation should operate in the particular way it does and in no other way, even in languages with a rich inflectional morphology (see the Appendix for details). Furthermore, it explains why this form — a bare stem — works as a command, thus revealing the non-arbitrary nature of the surface form. It is a further advantage of this analysis that it applies irrespective of the particular framework adopted for the underlying representation of the command utterance. Thus language transcends the polemics of linguistic theorisation.

APPENDIX

Fifteen other languages will be examined here, some related to each other, others very distinct, in order to establish the universal nature of the hypothesis that it is the bare stem that is used as an imperative, which the covert-question hypothesis makes use of.

These analyses are necessarily brief, and irrelevant details are omitted. Standard orthography will be used, unless this is phonetically opaque in a significant way. The analyses intended to show, firstly, that other languages clearly support the hypothesis, and secondly, that where a language appears not to support it (e.g. Polish, Greek, and others), this is the result of the opacity of the surface forms, and a correct analysis reveals that the language does support the hypothesis. This is intended as a demonstration that the existence of apparent counterexamples in other languages is not sufficient evidence, unless supported by a sufficient analysis. It will be seen that some languages present very strong cases against the hypothesis.

It is stressed that the existence of a language with imperatives whose form is specifically and overtly a verb stem plus an imperative marker does not invalidate the question-and-answer hypothesis for imperatives. There is no reason why a language should not have a speech act marker of this sort, attached to the bare stem imperative, especially since the speech act of commanding is considered to be represented as such at the underlying level of representation. This type of redundancy is a common feature of language. What is interesting, and stunning, is that so many languages do not have such a marker, when there is no priori reason why they should not.

Square brackets are used both for surface phonetic representations and underlying phonological representations. Morpheme boundaries (+) do not appear in surface phonetic representations.

Dutch In addition to *jij* 'you-sing'. and *jullie* 'you-plur.', Dutch has a 'polite' addressee pronoun *u*, morphologically singular, but semantically singular or plural. This is used in 'polite' imperative, with subject-verb inversion.

Komt u binnen, heren 'Come in, gentlemen!'

Affixed to the stem, *-t* marks the second and third persons singular of the present tense. Thus the stem of *komt* (the infinitive is *komen*) is *kom*, and it is this form that is used for the 'abrupt' imperative, with no addressee pronoun.

Kom morgen naar me toe 'Come to me tomorrow!'

This is perfectly regular. Further examples of these 'imperative forms' are *breng* 'bring!' *kijk* 'look!'. These are clear examples of the bare stern being

used as a command, even though Dutch (unlike, e.g., English) does mark the second person forms of verbs elsewhere.

Danish The transparency of the orthography throws the bare stems into relief here. This pattern is regular.

Imperative	*Infinitive*	*Present tense*	
åbn	åbne	åbner	'open'
lån	låne	låner	'lend'
sov	sove	sover	'sleep'
arbejd	arbejde	arbejder	'work'

Pending a more detailed analysis of the phonology, however, (particularly of the *stod*), we draw no conclusions here.

Finnish Finnish appears to provide counterevidence, in that imperatives contain material which is not found in some other forms. This argues against a bare stem analysis.

Imperative	*Infinitive*	
ota	ottaa	'take'
sovi	sopia	'suit'
sulje	sulkea	'close'
istuudu	istuutua	'sit down'

Completely ad hoc phonological rules would be required to relate these forms, in order to support the hypothesis. Such an analysis would, however, also neglect two other important points: the traditional analysis of Finnish as having several types of verb stems, and the regular relationship between the imperative form and certain other forms. Traditionally, Finnish uses one stem for the infinitive, and another for the imperative. Thus the lack of correspondence above. Compare the imperative with the second person present tense form, however.

ota	otat
sovi	sovit
sulje	suljet
istuudu	istuudut

The same regular and transparent relationship is found throughout. The first and second person forms use this stem; the third person forms use the same stem as the infinitive. Thus Finnish provides a clear case of using a bare stem as a command, even if one cannot speak of 'the' stem, which is a language-specific phenomenon, and independent of the imperative. Many languages, for instance, distinguish between an indicative and a subjunctive stem (see, e.g.,

Swahili, below). That it is the stem which is used for the second person forms, rather than that used for the third person forms, is also consistent with the hypothesis.

Swahili Here there is clear evidence of the bare stem being used as the 'imperative form'. The infinitive is marked by the prefix *ku-*, as in *kungoja* 'wait' *kulenga* 'aim' *kutii* 'obey'. The imperatives are represented in the following commands.

Ngoja kidoga	'Wait a bit!'
Lenga bunduki	'Aim the gun!'
Watii wazazi waho	'Obey your parents!'

In the last example, the imperative form is *tii*. The prefix *wa-* is an object marker, marking the presence of *wazazi* (note the same prefix). Compare this with the following sentence.

M'tii mwalimu waho 'Obey your teacher'

These prefixes are clearly not imperative markers. The forms *ngoja*, *lenga*, and *tii* are the verb stems, which in other sentences undergo affixation of various kinds (arguments, tense, ...) to give the verb forms found elsewhere.

This stem is in fact indicative stem. Swahili subjunctives are formed by using a subjunctive stem. This is identical to the indicative stem, except when the latter ends in *-a*, which becomes *-e* in the subjunctive stem. The subjunctive stem may also be used as a command.

Mwulize akusaidie 'Ask-him to help-you'

The indicative stem here is *uliza* 'ask'. The prefix is a pronoun. Usually, the subjunctive form is preceded by *tafadhali*, which is equivalent to *please*.

Tafadhali, nisaidie 'Please, help me'
Tafadhali lete sabuni na vitamba 'Please bring soap and cloths'

The indicative stems here are *saidia* 'help' and *leta* 'bring'. Compare the indicative stem of the same verb in the following.

Leta vikombe na visahani vyake, bakuli la sukari na biriki chai 'Bring the cups and saucers, the sugar bowl, and the tea pot'

In the case of those indicative stems which do not end in *-a*, it is of course impossible to tell whether an imperative is an indicative or a subjunctive stem (if it makes any sense to ask), since the forms are identical. Either way, however, a bare stem is being used.

It is clear, then, that Swahili provides evidence in support of the hypothesis. This evidence is particularly strong in that Swahili abounds in affixes.

To put it crudely, Swahili has an affix for everything. This often involves a lot of redundancy, as in *Watii wazazi wako*, above. It is thus particularly striking that there is no affix marking 'imperativeness' — under any analysis but the present one, there is no reason why there should not be one. The absence of such an affix is predicted by the present analysis, but accidental under any other.

Latin One might expect this richly inflected language to provide counter-evidence, but this is not the case. In fact, Latin provides very strong evidence that it is the bare stem that is used in imperatives, in that the endings of the forms vary, depending on the class of verbs involved. That is, the ending is not predictable from some putatively more basic form. Nor is there any specific imperative morpheme affixed to the stem or affecting it in some way. The vowel found in the imperative is found throughout the indicative paradigm for a given verb. The infinitive is given for contrast here.

Imperative	*Infinitive*	
voca	vocāre	'shout'
narra	narrāre	'tell'
ride	ridēre	'smile'
responde	respondēre	'answer'
puni	punīre	'punish'
fini	finīre	'finish'

A major class of exceptions is the class known traditionally as the 'third conjugation', where the stem is considered to end in a consonant (e.g. *scrīb-* 'write', *leg-* 'read') but where the imperative ends in *-e* (*scribe*, *lege*). To suggest that *-e* is an imperative marker in these verbs, but occurs in no others, is not an interesting solution. It cannot be considered part of the stem, because it cannot be accounted for elsewhere in the paradigm, in parts of which a different short vowel appears. This is also suggested by the fact that the infinitives (*scribĕre*, *legĕre*) have a penultimate short vowel in these verbs only. We may tentatively suggest, however, a constraint on the surface form of imperatives, or bare stems, to the effect that they must end in a vowel. This applies to all verbs, but vacuously to those with a stem-final vowel. This simply states that **scrīb*, **leg* are unacceptable surface strings. This is clearly not a phonological or categorially-based constraint, since words with final consonants, including verbs, are numerous in Latin. It is a constraint on the structure of morphemes in that it affects surface stems, or imperatives, which are the only forms that bare stems surface as.

These details are irrelevant, however, to the hypothesis that bare stems function as imperatives, which is clear from the Latin data, apart from the

one class of potentially problematic counterexamples. (Data from Winniczuk 1975).

Spanish/Italian The majority of Spanish verbs support the hypothesis, following the regularity of these two verbs.

Imperative	*Infinitive*	
alaba	alabar	'praise'
bebe	beber	'drink'

The stems are *alaba* and *bebe*, respectively. Arguments similar to those for Latin argue against considering the stems to be *alab* and *beb*. Some (traditionally 'irregular') verbs suggest that the final vowel is not part of the stem, since they do not appear in the imperatives.

pon	poner	'put'
ven	venir	'come'
ten	tenir	'hold'
sal	salir	'leave'

Since only these four verbs exhibit such forms, it is reasonable to conclude that any irregularity lies here, and that these verbs are unusual in having consonant-final stems. Thus, in all the verbs considered so far, a bare stem is used as the imperative form. A major class of exceptions, however, is that consisting of verbs whose infinitive form ends in *-ir*, on the pattern of *partir* 'depart', where the vowel in the imperative does not tally with the vowel we would consider to be a stem vowel, on the basis of the infinitive.

parte	partir	'depart'
escribe	escribir	'write'

We find here the same vowel as in the *beber*-type verbs. In many other parts of the paradigm, the *partir*-type verbs also exhibit the same endings as the *beber*-type verbs, in contrast with the *alabar*-type verbs — the subjunctive forms, for instance. We also find this widespread distinction in Italian, between *parlare*-type verbs on the one hand, and *credere/partire*-type verbs on the other. Also, we have the same problem with the imperative in Italian.

parla	parlare	'speak'
credi	credere	'believe'
parti	partire	'depart'

Note that Italian has an *-i* ending in the imperatives of the non-*a*-stem verbs (whereas Spanish has *-e*). Thus, it is the *credere*-type verbs that appear irregular (whereas in Spanish it is the *partir*-type verbs). Apart from this, the same situation appears to hold in both languages, and for both languages

we have a distinction between *a*-stem verbs and non-*a*-stem verbs, as far as much of the morphology is concerned. The fact that the grouping together of the *er(e)* and *ir(e)* verbs in both languages is not restricted to the imperative form makes the apparent exceptions to the hypothesis appear less crucial. In fact, it may be the infinitive forms, which maintain a *e/i* distinction, that are 'irregular'. If so, we may consider the imperative forms to represent the stems (which in Spanish are distinguished into *a*-stems and *e*-stems, and in Italian into *a*-stems and *i*-stems). This has clearly not been proved here (that would require a detailed analysis of the morphology and phonology of both languages) but we can say with certainty that the majority of Spanish and Italian verbs clearly support the hypothesis, and there is a good chance that all of them do.

Rumanian Here we seem to have a real counterexample. Consider the following imperatives, where, unlike in Latin, the final vowels (or their traces) can be shown not to be part of the stem.

calca	[kalkə]	'tread!'
taci	[tatʃ]	'be silent!'
crede	[krede]	'believe!'
mori	[mori]	'die!'

The stems here are *calc* [kalk], *tak* [tak], *cred* [kred], *mor* [mor]. Note that these are also the 1st pers. sing. pres. tense forms. If these are not stems then they need a lot of explaining as present tense forms.

Rumanian is a clear counterexample. We may note, however, the similarity between these imperative forms and the Latin ones (which are bare stems), in terms of the difference in the final vowel depending on the verb class rather than the presence of a specific uniform imperative marker, and hypothesize that at some point in the development of Modern Rumanian these bare stem imperatives were reanalysed as stem+affix forms — that is, verb stems were reanalysed. Thus we may have a historical explanation for the modern counterevidence. If the bare-stem hypothesis is universal, however, and pragmatically based, we may expect to see a change in Roumanian imperatives, to modern bare-stem forms instead of historical bare-stem forms. (Data from Mirska-Lasota 1964).

Polish A more detailed analysis is presented of Polish, since it appears to have two general types of imperative forms: those which are clearly bare stems, and those which appear to consist of stem+(vowel)+[j]. Thus Polish provides both supporting data and apparent counterevidence, if one considers only the surface forms. A closer look reveals more regularity.

Note firstly that verb roots take a stem-forming vowel *-i*. This surfaces,

for instance, as [j], in *kupią* [kupjow], where the root is *kup* [kup] and the person-tense-number affix is *-ą* [ow]. Except in particular phonetic environments involving consonant clusters (see below), this vowel is deleted in final position. Thus the imperative is *kup* [kup], derived from [kup+i], which is the stem. In certain cases, it causes palatalisation before being deleted. Thus we get the imperative form *rzuć* [ʒutɕ] from [ʒut+i] → [ʒutɕ]. There is no evidence of this vowel, however, in *rzucą* [ʒutsow]. This is the result of the depalatalisation caused by the suffix *-ą* [õw], whereby [ʒutɕ+i+õw] → [ʒutɕ+i +õw] → [ʒutɕ+õw] → [ʒuts+õw]. (See Gussmann (1973) for further details). Thus, given these regular phonological processes, all the following forms are regular in using the bare stem (root+*i*) as the imperative. The infinitive and the third pers. plur. pres. tense form (hereafter 'the *-ą* form') are given for comparison. Certain vowel changes and devoicing rules (e.g. in *zrób* [zrup]) are regular and irrelevant.

Imperative	*Infinitive*	*The -ą form*	
patrz [patš]	patrzyć [patšitɕ]	patrzą [patšõw]	'look'
rzuć [ʒutɕ]	rzucić [ʒutɕitɕ]	rzucą [ʒutsõw]	'throw'
mów [muf]	mówić [muvitɕ]	mówią [muvjõw]	'say'
zrób [zrup]	zrobić [zrobitɕ]	zrobią [zrobjõw]	'do'
kup [kup]	kupić [kupitɕ]	kupią [kupjõw]	'buy'

It is clear that the bare stem is used as the imperative form here, without further analysis. Turning now to the apparent counterexamples, we see that this is not so clear here. This, however, simply demonstrates the importance of analysis over mere data: "To find evidence to support or to refute a proposed condition on rules, it does not suffice to list unexplained phenomena; rather, it is necessary to present rules", (Chomsky 1976 : 5). The same point is applicable in the present case. The apparent counterexamples given below are only such at a superficial level. They are susceptible of analysis in such a way as to reveal their true regularity and conformity with the hypothesis. Each of the sets given below represents a class, and not merely a closed list of verbs.

Consider the first set of apparent counterexamples.

Imperative	*Infinitive*	
kochaj [kɔxaj]	kochać [kɔxatɕ]	'love'
czytaj [tšitaj]	czytać [tšitatɕ]	'read'
rzucaj [ʒutsaj]	rzucać [ʒutsatɕ]	'throw'

The simple data suggests that the stems are *koch*, *czyt*, and *rzuc*. This is not the case. The stems of these verbs are *kochaj*, *czytaj*, and *rzucaj*. (Whether they are [kɔx+aj], [kɔx+a+i] or [kɔxa+i] is left aside here). Note firstly the regularity (in terms of a final *-i*) that these stems have under this analysis,

in comparison with the first set of data. Furthermore, the *-ą* forms are *kochają* [kɔxajɔ̃], *czytają* [tʂɨtajɔ̃], and *rzucają* [ʐutsajɔ̃]. Elsewhere, *-ą* is affixed to the stem. This suggests that the stems of these verbs end in *-aj*. (See also Gussmann (1973 : 144—5) for further details).

Thus the hypothesis is supported by this group of apparent counterexamples, since it is not the imperative form as such that is different, but the stem of the verb itself. According to the hypothesis, the imperative must differ accordingly.

Consider now the second group of apparent counterexamples.

Imperative		*Infinitive*		
próbuj	[prubuj]	próbować	[prubovatɕ]	'try'
maluj	[maluj]	malować	[malovatɕ]	'paint'
narysuj	[narisuj]	narysować	[narisovatɕ]	'draw'

Here we see the productive verb-forming suffix *-ować* (infinitive form), used also to form verbs from loaned roots: *dubbingować* 'to dub (films)', *kserokopiować* 'to xerox', *filmować* 'to film'. This is affixed to the forms *próbo*, *mal*, *rys* (*na-* is a prefix). These are not the verb stems, however, but the roots, and recur in nouns, for instance: *próba* 'rehearsal', *malarz* 'painter', *rysunek* 'drawing'. The *-ą* forms of the verbs are *próbują* [prubujɔ̃], *malują* [malujɔ̃], *narysują* [narisujɔ̃]. In fact, the *-uj-* occurs in the whole present tense paradigm. We see that the stems are *próbuj*, *maluj*, *narysuj*, i.e. as in the imperative forms. The hypothesis is supported.

Consider the third type of apparent counterexample.

Imperative		*Infinitive*		
zabij	[zabij]	zabić	[zabitɕ]	'kill'
wytrzyj	[vitʂɨj]	wytrzeć	[vitʂɛtɕ]	'wipe'
umyj	[umɨj]	umyć	[umɨtɕ]	'wash'

These are trivial counterexamples, but illustrative of the need for analysis. Here, the final vowel in the imperative is not the suffix it looks like, but part of the stem; *za-*, *wy-*, and *u-* are prefixes. The infinitives of the verbs they are prefixed to are *bić* 'hit', *trzeć* 'rub', and *myć* 'wash', respectively, whose imperative forms are *bij* [bij], *trzyj* [tʂɨj], and *myj* [mɨj]. Clearly, these are bare stems functioning as imperatives. The hypothesis is supported.

Consider the fourth type.

Imperative		*Infinitive*		
spełnij	[spewnij]	spełnić	[spɛwnitɕ]	'fulfill'
objaśnij	[objacnij]	objaśnić	[objacnitɕ]	'clarify'

Once again it can be shown that the final vowel in the imperative form is not an imperative affix but part of the stem. The *-ą* forms are *spełnią* [spɛwpɔ̃],

objaśniq [[objaɕpɔ̃]. Note the palatalisation of the nasal, which is non-palatal in the roots *spełn* [s+pełn], *objasn* [ob+jasn]. (Compare the adjectives *pełny* [pewnɪ], *jasny* [jasnɪ].) We see here the same stem-forming affix *-i* as we saw in *kup* [kup], from [kup+i], and *rzuć* [żutɕ], from [żut+i], above. Here, however, the vowel is not deleted, since it follows a consonant cluster ending in a nasal, although it is in final position. Thus it surfaces in *spełnij* and *objasnij*, which are the stems. The hypothesis is supported.

Consider the fifth type.

Imperative	*Infinitive*	
zamknij [zamknij]	zamknąć [zamknɔntɕ]	'close'
stuknij [stuknij]	stuknąć [stuknɔntɕ]	'tap'
chrapnij [xrapnij]	chrapnąć [xrapnɔntɕ]	'snore'
ciągnij [tɕɔŋgnij]	ciągnąć [tɕɔŋgnɔntɕ]	'pull'
machnij [maxnij]	machnąć [maxnɔntɕ]	'wave'

This last group constitutes the only real possible counter-examples in Polish, since it seems that the *-i* in the imperative form cannot be considered part of the stem. Consider the *-q* forms: *zamknq* [zamknɔ̃], *stuknq* [stuknɔ̃], *chrapnq* [xrapnɔ̃], *ciągnq* [tɕɔŋgnɔ̃], *machnq* [maxnɔ̃]. Note the nasal consonants, however. Firstly, it is not part of the root; these are *zamyk*, *stuk*, *chrap*, *ciąg*, *mach*. Verbs without the *-n-* are formed from these roots, with suitably different imperatives: *zamykać* : *zamykaj*, *stukać* : *stukaj*, *chrapać* : *chrapaj*, *wyciągać* : *wyciągaj*, *machać* : *machaj*. The *-n-* affix forms semelfactive verbs from the root, and its absence results in iterative verbs. Note that its presence makes the stem end in a consonant cluster ending in a nasal (*cf.* the previous group of verbs). Only after such a cluster does the imperative show this unaccounted *i* vowel. That this is a phonological matter and not a property of the root can be demonstrated by evidence from Polish dialects. For instance, *ciągnij* appears as *ciąg* (*wyciąg* 'pull out!', *pociąg* 'give a pull!'). No nasal consonant and no vowel. Note that the imperative of *wyciągać* is *wyciągaj*, so we are not dealing with a semelfactive iterative distinction.

This consonant+nasal cluster also has historical significance. The Proto-Slavonic (see below) regular 'imperative' ending was *-i*. The rule deleting this in final position became operative in certain contexts early, but by the end of the sixteenth century had spread to almost all contexts. The *-i* survived only after stems ending in certain consonant clusters, particularly those with a nasal as the second element. The imperative forms of verbs with *i* in the stem, *e.g. bij*, *myj*, above, were at that time as they are today, i.e. [bij], [mɪj]. At this point, glide-formation on final *i* was extended to final *i* in polysyllabic words, and thus to those imperatives which still ended in *i*, i.e. after the consonant clusters. These then became immune to the change deleting final *i*, which was no longer final.

The problem, then, is a morphological one — the presence of *-n-*. Gussmann (1973) suggests that there is a morphological rule which changes the stem-forming *i* to *o* in these cases, i.e. after this morpheme *-n-*. If this rule does not operate when *i* is in word-final position, then *stuknq* [stuknɔ̃] is derived [stuk+n+i+ɔ̃] → [stuk+n+o+ɔ̃] → [stuk+n+ɔ̃], whereas *stuknij* [stuknij] is derived from [stuk+n+i], where the *i* → *o* rule does not operate. On this analysis, even these verbs support the hypothesis. If this morphological rule is incorrect, then we are left with a class of tightly defined counterexamples to the hypothesis, on morphological grounds, and with a historical explanation in terms of the interaction of two independent phonological processes.

Taking an optimistic view of the last point, we see that Polish confirms the hypothesis, in spite of several types of apparent counterexamples, and in spite of being a language with a very rich morphological system.

Czech Here we have the same situation as in Polish. There are both bare-stem imperatives which are clearly so, and ones with final [Vj]. The Polish [aj] forms are [ej] in Czech, and the [ij], [ɪj] endings are [i]. The nasal clusters are also in evidence where one would expect them. Compare the imperative and infinitive forms: *pros* : *prosit* 'beg', *trp* : *trpět* 'suffer', *kryj* : *krýt* 'cover', *kupuj* : *kupovat* 'buy', *dělej* : *dělat* 'do', *tiskni* : *tisknout* 'press', *miň* : *minout* 'pass'. Bare stems clearly function as imperative. (Data from Damborský 1970)

Russian Firstly, Russian provides striking evidence in support of the above analysis of Polish were the stem of *czytam* 'I read' is analysed as *czytaj*, since we see this *-aj* in the present tense forms of these verbs in Russian: *читаю* [tsitaju], where [u] is the person-tense-number affix. Likewise, *читаешь* [tsitaješ] 'you read', cf. Polish *czytasz* [tʃɪtaʃ]. Since the Russian imperatives here have the form *читай* [tsitaj], i.e. the bare stem, these are not counterexamples at all in Russian.

Recall that the only place where the stem-forming *i* did not surface in Polish was finally after a stop-final root, e.g. *kup*. Russian has final surface palatal stops where Polish does not, so we see (ignoring irrelevant details) the trace of this vowel *i* in the corresponding Russian imperatives: *сядь* [sjadʲ] 'sit down' from [sjad+i]; *встань* [fstanʲ] 'stand up' from [fstan+i]. Compare the 1st pers. sing. pres. tense forms: *сяду* [sjadu], *встану* [fstanu].

We see the full *i* vowel after the familiar consonant+nasal clusters: *достигни* [dastʲignʲi] 'achieve', *сверни* [sfʲjergnʲi] 'overthrow'.

There is, however, a class of verbs in which the *i* surfaces which does not appear in Polish. These are the verbs which are stressed on the final syllable. In the imperative, this is the *i* vowel: *иди* [idʲi] 'go', *изучи* [izutʃi] 'study'. This is not a counterexample to the hypothesis, since we are considering this to be a stem-forming vowel, as in Polish. Note, however, that there exist

other forms of these verbs, e.g. *идý* [idú], where there is no *i*, nor any trace of it. We ignore this minor problem here, considering it to be the result of a property of the suffix [u], perhaps when a consonant precedes the *i*. Consider a similar problem in Latin, where the stem of *amare* 'love' is considered to be *ama-*, in spite of the surface form *amo*, derived from [ama+o].

We see then that Russian supports the hypothesis, in that it uses *i*-final stems as imperatives. (Data from Pulkina 1975).

Bulgarian Here we have the same system as we saw in Polish and Russian, with imperatives ending in *-i*. In Bulgarian, this is always stressed, as we saw in some Russian verbs: *чети* [tšetí] 'read', *мóли* [molí] 'ask', *гледи* [gledí] 'look'. Here, the root ends in a consonant. With vowel-final roots, *i* becomes a glide: *сей* [séj] 'sow', *стой* [stój] 'stand'. If we did not take into consideration evidence from Polish, we might conclude that *i* is an 'imperative marker' here, since the surface data from other verb forms suggests that the stems are, e.g., [tšet] or [tšete]. (Recall that the stem of Polish *czytaj* at first appeared to be *czyt*, erroneously.) For instance, Bulgarian verbs are traditionally divided into three conjugations, depending on whether the 'stem-forming' vowel is *-e*, *-i*, or *-a*, e.g. *чете-* [tšete], *мóли-* [moli], *гледа-* [gleda]. According to the arguments from Latin, above, these should be the imperative forms, and thus Bulgarian appears to have an 'imperative marker' *i*. Since Bulgarian is not a Romance language, however, we may conclude that this *i* has more in common with the stem-forming *i* found in other Slavonic languages, where we find both *i*-final imperatives and *i*-deletion. This suggests that it might be possible to consider the stems to be [tšet+i], [mol+i], and [gled+i], or perhaps [tšete+i], [moli+i], and [gleda+i], with *i*-deletion under certain conditions (as in Polish and Russian) but not where the bare stem surfaces as an imperative (as in Russian, and most of Polish). This has clearly not been proved here, and a more detailed analysis is necessary before firm conclusions may be drawn. If it turns out that it cannot be maintained, however, and we are forced to analyze the imperative as a stem+affix form here, then we have a situation similar to that in Rumanian, where the metanalysis of stems has taken place (from stem=root+*i* to stem=root), thus creating a 'stranded' imperative marker. (Data from Popowa 1972.)

Old Church Slavonic Note firstly that Proto-Slavonic (PS) and Old Church Slavonic (OCS) imperatives developed not from the Proto-Indo-European (PIE) imperative, but from the PIE optative. The PIE optative stem consisted of the present stem plus **-i*, or **-iē* when the present stem was not formed by **-i* or **-o*. Subsequent changes affected the stem-final vowel and **-i*. For instance, if the present ended in **-o*, the diphthong **-oi* developed into **-ei*, which developed into OCS *-i*. This is no longer an affix, note, but

part of the stem, as the *o* part of the diphthong was. Where the stem ended in **-i*, then **-i+i* developed into OCS *-i*. This accounts for the *i* prevalent in Slavonic imperatives, and also for the metanalysis according to which it developed from an affix into part of the stem, but not part of the root. Thus all but a handful of OCS imperatives end in *-i* (and the handful end in a palatal consonant cluster derived from **-i* affixed to PIE stems ending in **-d*).

Of the 17 OCS open verb classes in Lehr-Spławiński and Bartula (1976), 9 have *i*-final present stems. For these verbs, the imperative form is identical to the stem, without further detailed analysis. The other eight have stems ending in *-e*. These constitute counterexamples to the hypothesis, unless it can be shown that the underlying representation of these forms is identical to that of the imperative/stem, as has been shown for similar counterexamples in Polish. (Data from Lehr-Spławiński & Bartula 1976)

Greek Greek provides a whole range of apparent counterexamples. Consider first a relatively simple case: *παιδευε* [pajdewe] 'educate'. This imperative is the bare stem. It consists, however, of the root [pajdew] plus the stem-forming vowel -e [e]. This vowel occurs in all the forms of those verbs which take it (see below for verbs which don't). (The variant *o* occurs before nasal consonants.) However, when a further vowel-initial suffix is added, certain regular phonetic rules affect the contiguous vowels. The details of these rules will not be examined here, only the changes they effect. Consider the following derivations of other forms of the same verb: *παιδευω* [pajdewo:] (1st pers. sing. pres. ind. act.) is derived [pajdew+e+o:] → [pajdew+o:] → [pajdewo:]; *παιδευη* [pajdewe:] (2nd pers. sing. pres. ind. med./pass.) is derived [pajdew+e+hai] → [pajdew+e+ai] → [pajdew+e:] → [pajdewe:]; *παιδευετε* [pajdewete] (2nd pers. pres. ind. act.) is derived [pajdew+e+te] → [pajdewete] — the stem-forming vowel is not affected, since the following affix is not vowel-initial.

In the imperative, since no affix follows the stem, this vowel is never changed or deleted, nor does it ever appear as *o*, of course. The result is that it may look as though this is an imperative marker, since it always occurs in this form, but it is usually not evident in any other form. This is clearly a false assumption, since it is present in all the relevant forms, even though it does not surface, since it is part of the stem.

This camouflaging of the true nature of this vowel is compounded by the effect of these phonetic rules in the case of roots ending in *-a*, *-e*, or *-o*, like *τιμα* [tima] 'value', *ποιε* [poje] 'do', *δουλο* [du : lo] 'subjugate'. As above, the stem-forming vowel *e* is affected by a following vowel-initial suffix; here, it is deleted, following which further rules affect the root vowel, which is now adjacent to the suffix. These are the 1st pers. sing. pres. ind. act. forms: *τιμω̃*

[timo:] is derived [tima+e+o:] → [tima+o:] → [timo:]; *ποιῶ* [pojo:] is derived [poje+e+o:] → [poje+o:] → [pojo:]; *δουλῶ* [du : lo:] is derive l [du : lo+e+o:] → [du : lo+o:] → [du: lo:]. If no suffix follows the stem, however, as in the imperative, then the stem-forming vowel is not affected by the first rule of the above derivations, and the *e* remains. Now, however, different rules apply, affecting the root and stem vowels. These are the imperatives: *τιμᾱ́* [tima:] is derived [tima+e] → [tima:]; *ποιει* [poje:] is derived [poje+e] → [poje:]; *δουλου* [du: lu:] is derived [du: lo+e] → [du: lu:]. Since a different vowel is adjacent to the root vowel here, the changes effected are different. Now, it so happens that the final [a:] occurs in almost only this form, the 'imperative', of [tima-]; similarly for the [e:] of [poje-] and the [u:] of [du: lo-]. Once again, the imperative has a distinct form which doesn't look like the stem, only here we can't even see the stem-forming vowel *e*. This is purely the result of the phonetic rules affecting adjacent vowels, however.

Consider now those verbs which do not form stems from roots by using this vowel *e*, but do so by initial reduplication, or by the suffix *-νυ* [ny:]. We would thus expect the imperative to be overtly identical to the stem here. This is so. The root *στη* [ste:] 'stand' forms its stem by reduplication: *ἱστη* [hi+ste:] (<[si+ste:]). The imperative is *ἱστη* [histe:]. This is clearly a bare stem. The root *δεικ* [dejk] 'show' forms its stem with *-νυ*: *δεικνυ* [dejk+ny:]. The imperative is *δεικνυ* [dejkny:]. This is clearly a bare stem!

Other verbs of this class, however, underwent certain analogical changes, based on the verbs taking the stem-forming vowel *e*. This affected those stems whose root vowels were *-e* or *-o*, such as *τιθε* [ti+the] 'lay' (root: *θε* [the]) and *διδο* [di+do] 'give' (root: *δο* [do]). By analogy with, e.g., the roots *ποιε* [poje] and *δουλο* [du: lo], above, in some cases a 'stem-forming' vowel *e* was suffixed to what was already a stem. Thus the 'real' stems [tithe] and [dido] became [tithe+e] and [dido+e], and it is the latter 'stems' that were used as the 'imperative form'. Phonetic rules that we have already seen above affected these underlying forms, deriving *τιθει* [tithe:] and *διδου* [didu:]. These are not the 'real' stems, but are derived as if they were, in that the affix distinguishing them from the stems is the misplaced stem-forming vowel *e*.

It is thus clear that Greek, in spite of apparent superficial counterexamples of the strongest kind, provides strong evidence in support of the hypothesis, in that it uses bare stems at the systematic level, rather than at the surface. The apparent counterexamples are simply the result of phonetic rules applying to the bare stems. (Data from Golias (1975) and Auerbach & Golias (1962))

Chinese It is clear that no very strong arguments can be drawn from a language which contains very little verb morphology anyway. For example, the futurity of the following sentence is indicated only by ***míngtiān*** 'tomorrow'.

Wǒ míngtiān dào Běi Jīng qù 'I shall go to Peking tomorrow'
I tomorrow to Peking go

In Chinese, the imperative is only one instance out of many in which the verb appears as a bare stem. Likewise the absence of a subject is found in non-imperative sentences, as in the following conversation.

A: Nǐ míngtiān mǎi shū mǎ 'Are you going to buy some books tomorrow?'
you tomorrow buy book Q
B: Mǎi 'Yes'
buy

This is the normal way of answering questions. It is clear that the non-appearance of the subject is pragmatically justified. The form *mǎi* is also the form used as the imperative, 'Buy!'. Whereas no direct evidence can be drawn from this, it is worth noting that those contexts in which a bare stem form, like *mǎi*, is appropriate are responses to questions, where the non-surfacing but semantically relevant material has been expressed in the question. Also, consider information questions, such as the following.

A: Nǐ xiànzài zùo shénmə̊ 'What are you doing now?'
you now do what
B: Kàn bào 'I'm reading a newspaper'
read newspaper

These subjectless forms also occur in other places where specification would be redundant, e.g. when listing a series of actions performed by one person, even across sentences, where no change of subject occurs. The only place where there is no direct linguistic prespecification of the subject is in imperatives. The fact that Chinese produces the same form as a response to a question as it does as an imperative is circumstantial evidence in favour of the covert question analysis of imperatives, which explains why this form is used in imperatives, where there is no overt specification, but there is a pragmatic assumption of the presence of covert specification.

Conclusion We see therefore that the data from some other languages supports the hypothesis. The support is particularly strong from languages with complex inflectional systems, unlike English. There is also some strong counter-evidence from some languages, however, though there always seem to be extenuating circumstances. These require a more detailed analysis than is possible here. If it can be demonstrated that all languages use a bare stem as the 'imperative form', then we have strong support for the covert-question hypothesis. If not, then the universality of the hypothesis is weakened, but it is not invalidated, since redundancy is a common feature of language, and it is not unusual for languages to use speech act markers.

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CONTRASTIVE SOCIOLINGUISTICS — SOME METHODOLOGICAL CONSIDERATIONS

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The existence of sociolinguistics presupposes recognition of language variation. Language variation, in turn, may be conceived of basically in terms of:

1) the ideal speaker-hearer's knowledge of communicative rules and his potential application of these rules, and

2) the actual performance as investigated on a group of speakers strictly defined by social and geographical parameters.

The two views on variation bring to light the fundamental question of sociolinguistics, namely, what is it that the sociolinguist studies, or should study? The choice of (1) or (2) does not necessarily answer the question posed, but it definitely imposes on the linguist methodological requirements and constraints pertaining to the collection of data. Whether (1) or (2) will be the focus of the sociolinguist is a matter of individual preference and philosophical standpoint. In some authors' opinion both aspects of language variation should be investigated as "the interaction of competence and performance... is essential for the understanding of everyday activities" (Cicourel 1974 : 44). It follows that sociolinguistics may create models of both communicative competence and situated usage, i.e., performance.

Adherence to the first alternative necessitates accepting the view that neither linguistics nor sociolinguistics should go beyond investigating the ideal speaker-hearer's linguistic competence and communicative competence, respectively. Within this perspective the sociolinguist's task would be to expand the theory of linguistic competence to that of communicative competence, by supplementing a set of formation rules with a set of rules of use. Viewing communicative competence as an expansion of linguistic competence, as understood by Chomsky (1965), entails a corollary as for the way data

should be obtained. In such a framework mainly the sociolinguist himself would serve as an informant and his intuitive judgments would be arrived at largely through introspection.

The type of sociolinguistics adumbrated above is justly exposed to wide criticism. It should be opposed basically on the same grounds that the 'orthodox' linguistics (i.e., mainly the transformational-generative approach) is objected to. The main objections relevant to our subsequent discussion include:

1) disregarding the heterogenous nature of the speech community, and
2) generalizing descriptive statements to larger groups of speakers on the basis of the individual linguist's intuitive judgments.

Numerous authors have objected to the transformational methodology. Dittmar points out that "it is not possible to determine the correctness of descriptions to the extent that linguists describe solely their linguistic intuitions" (1976 : 188) and "the grammaticality and acceptibility of utterances cannot be satisfactorily ascertained by questioning" (1976 : 188). By administering self-evaluation tests to groups of informants Labov (1972) indicated clearly that speakers' judgments are often just reports on what they think they say. The actual data collected differs significantly from the data reported on. It follows that the data collected within the transformational methodology is unreliable, and it does not allow generalizations relative to a strictly defined speech community. Thus any theory of communicative competence (understood as an extension of Chomsky's linguistic competence) must fall short of the goal of offering reliable descriptions of language varieties other than the idiolect.

The sociolinguist whose interest is directed to language performance must make use of entirely different methodological tools. By attending to empirical data, and by correlating these data with isolated social parameters, the "performance sociolinguist" has access to categories that the transformational linguist is barred from. Hence the availability to the sociolinguist of more reliable data and legitimate generalizations to strictly defined groups of speakers and language varieties *other* than the idiolect.

We now wish to relate the foregoing considerations to the operation of Contrastive Sociolinguistics (CS) which seems to be best understood in terms of an approach toward sociolinguistics. The underlying objective of CS is twofold:

1) provide a systematic juxtaposition of equivalent and non-equivalent sociolinguistic patterns, and
2) provide an analytical framework for the formation of theories of language use, i.e., performance theories.

(1) implies supplying information for applied sociolinguistic purposes, e.g.,

foreign language teaching. Below we want to indicate that CS analyses will bear most fruit if they are performed within the "performance alternative" commented on at the beginning of this paper.

Non-sociolinguistic contrastive studies carried out in different countries, and reported on in journals like PSiCL have clearly exhibited the methodological confines of transformational grammar. Logically, the contrastive sociolinguist oriented toward performance analysis will question some of the methodological assumptions that the 'orthodox' contrastive linguist will accept (cf. p. 2).

One should give much credit to authors such as Ervin—Tripp (1973), Slobin (1963), and others for their sociolinguistic findings. Carried out within the "communicative competence alternative" as they are, they do contribute a great deal to our understanding of the functional aspect of language. However, if valid *contrastive* studies of this sort are to develop a switch to the "performance alternative" seems inevitable. The few contrastive sociolinguistic studies available as well as the bulk of nonsociolinguistic contrastive analyses carried out to date have purported to provide facts pertaining to two languages, which in fact have been some nonspecified varieties of either of the languages compared. The sociolinguist who is not only aware of the existence of language variation (we believe that all linguists are), but also in a principled manner attends to this fact in his academic endeavors, can hardly approve of comparing aspects of for example Polish and English, without explicit specifying what varieties of the languages in question are being investigated. It follows that contrastive sociolinguistic analyses carried out within the "communicative competence perspective" would not offer valid information for at least two reasons:

1) such information would refer to a nonspecified speech community, and hence nonspecified language variety, and

2) even if the language varieties of reference were defined intuitively, it would not be possible to state that the two varieties compared are comparable in sociolinguistic terms. The foregoing considerations lead us to say that in order to bring out statements valid sociolinguistically CS has to resort to analyses of performance.

In view of the fact discussed above we want to concede that contrastive sociolinguistic analyses cannot be undertaken until the necessary *levels of comparability* have been established and clearly defined. While the 'orthodox' linguist has been forced to study the competence forms underlying mainly *standard* and relatively *formal* performance patterns the sociolinguist is free to take an account of *any* variety of a language. However, prior to an attempt of a contrastive analysis the sociolinguist has to make sure that the varieties, each of a different language, are eligible for mutual comparison.

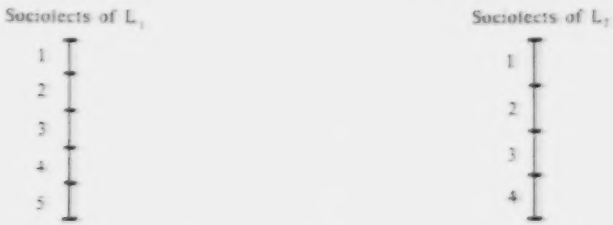
In order to establish the levels of comparability one has to take recourse to the distinction between:

1) language variety according to user, and
2) language variety according to use.

The interaction between the two involves the necessity to make choices and establish comparability with respect to *both* (1) and (2).

The first decision will concern the national varieties the linguist wishes to study. This step is inevitable in the case of languages like English or German where a number of national varieties exist side by side. Since language varies from social group to social group, upon analyzing a language the sociolinguist then ought to make his choice as to the social group he wishes to study. In a contrastive analysis the language variety of an equivalent social groups of the other culture should be juxtaposed. In order words, choices must be made with respect to the sociolectal variety which may in practice be narrowed down to such small group varieties as those of professional groups.

Language variation according to user includes also the regional dimension which, although most relevant to monocultural sociolinguistic research, turns out to be of little use for contrastive purposes. As regional equivalence across two languages cannot be established the student of CS should primarily be concerned with the sociolectal level of comparability, i.e., he should make sure that the varieties of the two languages compared are equivalent in the social functions that they can play. Graphically, the relationship between sociolectal variation in L_1 and L_2 is very likely to take the following form:



In both L_1 and L_2, 1 will differ from 2 (likewise 2 from 3, etc.) in formal linguistic features as well as rules of usage. It must be remembered that any pair of languages may differ in the number of functional sociolectal categories each language contains. Such a lack of one-to-one correspondence hinders the validity of findings pertaining to our sociolects $L_1$3 and $L_2$3 for example, since $L_1$3 and $L_2$3 do not occupy the same place in the sociolectal structures of the respective languages. In view of these facts it seems relatively easy and plausible in practice to compare the sociolects exhibiting the highest

and the lowest social prestige, the "in-between sociolects" being a fuzzy area where equivalence can hardly be established. While the top point in the scale usually refers to the standard variety of a given language the lowest ones may pertain to a variety of lects some of which are, and others of which hardly seem to be, comparable with sociolects of another language. There is no doubt that Black English Vernacular for instance, which has very low social prestige, is not comparable with any sociolect of Polish. There are other low prestige sociolects, however, which are eligible for comparison.

For epistemological reasons a comparison of *any* equivalent sociolects may be attempted. With a pragmatic goal in mind, however, (foreign language teaching) the only choice fully justifiable is the sociolects ranking high on the social prestige scale. In foreign language teaching the standard variety (intuitively described) has always been the model variety. Also, from the point of view of the social roles that the foreign learner is likely to play in the target culture learning a standard variety seems the only choice justifiable for him. This refers exclusively to *foreign* language learning and teaching. It does not relate to *second* language learning and teaching where sociolectal choices might be different depending on the social groups concerned (e.g. immigrants).

Contrastive Sociolinguistics will also have to take account of situations where members of sociolect 1 of L_1 communicate with members of 2 of L_2 (likewise members of 1 of L_1 with 2 of L_2). In such a case speakers of both 1 and 2 apply a number of adaptive rules which modify their speech with respect to the rules which are used when in-group members are addressed. CS will be interested in looking at those adaptive strategies as they function in a pair of languages.

In a contrastive sociolinguistic study social groups may have to be split into the female and the male categories. As is well known one of the dimensions of linguistic variation is that of sex. Depending on the individual language the differences may be more or less striking. When one looks at languages like Polish, English, German, or French one does not think that equivalence of sex has to be established as a level of comparability. While this is fundamentally true one should not forget, however, that other languages manifest more significant differences[1] whereupon setting sex equivalence as a level of comparability has to be at least taken into account.

It is of interest to students of CS to know what the distribution of lin-

[1] For example, in Chiquito, and American Indian language of Bolivia, 'my brother' is *idibausi* (when said by a female) and *tsuruki* (When said by a male), 'my father' is *tjali* (male speaker) and *isupu* (female speaker). In the American Indian language Konsati, a language of the Muskogean family, spoken in Louisiana, 'He is saying' is /ka:s/ (male speaker) and /kã:/ (female) (Trudgill 1974).

guistic forms is in *apparent time* — "that is, along the dimension formed by the age groups of the present population" (Labov 1972 : 163). This dimension refers to generation divergencies which when correlating with linguistic differences, which is usually the case, constitute another potential level of comparability at which equivalence must be established. Generation discrepancies within one society are often revealed not only at the linguistic level but also at the higher sociolinguistic and socio-interactional levels. Norms pertaining to social interaction seem to be changing very rapidly nowadays. Likewise, the linguistic and non-linguistic[2] behaviour that implements the various rights and obligations in actual interaction markedly differ across generations. Therefore the student of CS must explicitly state what age categories he is considering. It follows that, within the framework adumbrated above, three possibilities become available:

I. accounting for sociolinguistic behaviour pertaining to the language of generation 1[3] (functional sociolinguistically) of L_1, and accounting for sociolinguistic rules pertaining to the language of comparable and equivalent generation category 1 (functional sociolinguistically) of L_2

II. accounting for the sociolinguistic behavior of 2[4] of L_1 and the equivalent category 2 of L_2

III. accounting for the sociolinguistic behavior of both 1 and 2 of L_1 and L_2.[5]

The present discussion of the age factor should not be confused with the issue of age as a variable present in any speech situation. The point in question is that while age is always a variable in any speech situation in the languages the author has some knowledge of (e.g., German, English, Spanish), the status of this variable within the entire variable complex may significantly vary from one generation to another.

Once equivalence and the levels of comparability have been established with respect to the *user*, variation according to use must be taken into account. 'Variation according to use' is translatable into the individual speaker's, or a relatively homogeneous group of speakers' linguistic repertoire out of which the appropriate linguistic forms are selected in varying extralinguistic

[2] Take as an example the younger and the older Polish generations and the way these two differ on the norms of dancing (both kinesics and proxemics).

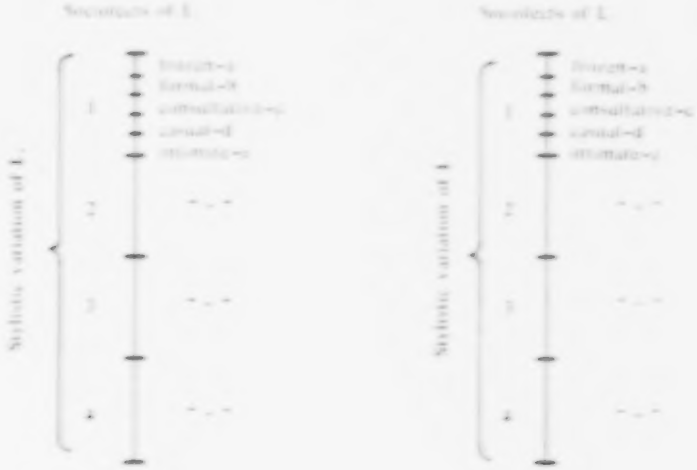
[3] It seems that in most societies there are two generation categories functional sociolinguistically. If we consider 1 to be the younger generation in the first alternative the linguistic variation of the older generation would not be described.

[4] 2 refers to the older generation.

[5] This possibility is not meant to indicate separate studies of 1 of L_1 and 1 of L_2; 2 of L_1 and 2 of L_2, and postdescriptive matching. It is intended to indicate an approach resulting in generalizations bigger than in the case of the possibilities I and II. A sociolinguistic rule arrived at within III would be capable of generating instances of behavior generalizable to pertinent rules of I and II formulated separately for each category.

circumstances. The set of registers that speakers have at their disposal involves a large variation of linguistic forms which are subsumable under differentiated categories (cf. Janicki 1978). It is important therefore to state which of these categories of language use are being considered in a contrastive sociolinguistic study.

The issue in question may be best illustrated with the example of style (a type of register). *Joos* (1959) arbitrarily distinguished five categories of style for English — frozen, formal, consultative, casual, and intimate. Let us assume that the same number of categories has been isolated for some other language L_2. The following diagram illustrates the relationship between sociolectal (variation according to *user*) and stylistic (variation according to *use*) variation.



In L_1 there are four sociolects. Likewise L_2 includes four sociolects. Each of these four sociolects organizes its stylistic usage in a specific way. It follows that 1 of L_1 must be compared with 1 of L_2 (2 of L_1 with 2 of L_2, etc.).The sociolectal level having been established a of $1L_1$ must be compared with a of $1L_2$ (b of $1L_1$ with b of $1L_2$, etc.).

Having established the indispensable levels of comparability the contrastive sociolinguist may commence his analysis of the two selected varieties of L_1 and L_2. Thus it will become clear that each statement is made relative to a strictly defined social context which correlates with the individual linguistic variety under consideration. Whether the sociolinguist will then care to integrate findings pertaining to two or more varieties, or whether he will eschew such an attempt is an entirely different matter.

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HOW TO DESCRIBE PHONOLOGICAL VARIATION

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In this paper we shall first argue for phonological analysis to abandon the self-imposed limitation on slow-careful speech as its only object of descriptions, and to extend its data domain to forms of fast and casual speech. Second, we shall critically review the theoretical and methodological tools offered to the analyst of phonological variation by current schools of phonology. In this context we shall present some substantial assumptions about the organization of polystylistic phonological systems, and their description, thereby referring to studies made by adherents of Natural Process Phonology. These assumptions will receive further illustration by a model analysis of particular cases of phonological variation in German and Italian.

1

This article is based on the conviction of its authors that it is necessary for the phonological description of a given language to cover not only carefully pronounced slow speech forms but also fast and casual speech forms. Consequently, we argue for phonological analyses, whether they are theoretically or practically motivated, to abandon their usual limitation on a single phonostylistic level (viz. slow-careful speech)[1] and to extend their data domain

[1] Cf. Pike's (1961, 124 - 125, 209 - 210) advice to analyse but slow careful speech and merely specify the stylistic level a given speech form belongs to, thereby assuming that casual speech phenomena are essentially the same across languages (which is only true *so far as general* formal and substantial properties of casual speech forms are concerned — see 3.2 and 3.3. below, but not as to the phonetic content of these forms, which is of course highly language-specific).

to the whole scale of phonological styles.[2] In short: we want phonological analysis to be polystylistic rather than monostylistic. This demand can be justified by the following considerations:

— From a *theoretical* point of view it is a highly challenging task to investigate phonological variation (=the properties of the phonostylistic variants of a given linguistic item; the way these variants relate to each other).

— As for *practical* implications of such an extended account of phonostylistic data, it will help to remedy one major shortcoming of traditional foreign language teaching, namely its being exclusively devoted to teaching of maximally differentiated speech forms without bothering about phonological variation within both, the source and the target language. The effects of this shortcoming can be clearly seen when we consider the following two interferential phenomena typical of foreign language users:

1. Their inability to understand casual speech forms of the target language (because they) are not taught how to relate them to their careful speech correspondents).[3]
2. Their carefree transfer of casual speech patterns of their mother-tongue when speaking casually in the target language.

The following examples may serve to illustrate these points (cf. also Dressler (1971), Gnutzmann (1975), and Rubach (1977)): It is obvious that there is a long way from, e.g. over-precise English [wɔt du: ju: wɔnt] 'What do you want?' to casual [wɔčəwɔnt]. As for the second point, namely transfer of a casual speech pattern, consider the following case of transfer from Austrian German to Italian: Austrian German *Vr* — sequences are pronounced as such in very careful speech only. As speech becomes more casual, the *r* undergoes a rule of *r-vocalisation*. Thus, *Pferd* [pfɛrt] 'horse' is realized as [pfɛɐt]. When Austrians speak Italian they tend to apply this rule to Italian words meeting its applicational conditions: *Palermo* [palɛrmo] 'Palermo' or *certo* [čɛrto] 'certain' are 'austrianized' as [palɛɐmo] and [čɛɐto], which makes them incomprehensible for many Italians.

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[2] As can be seen from our wording we regard slow-careful speech as one stylistic level among others. Consequently, we argue that any special status attributed to slow-careful speech can be justified solely on pragmatic grounds (slow-careful speech seems to be most easily accessible to the analytical devices of the linguist — cf. in this respect Pike's statements referred to in footnote 1; also see Thurow (1977)) but not on any principled grounds.

[3] This inability seems often to be paralleled by gross deficiencies of the language learners in pronouncing and understanding the 'weak' (i.e. clitic, unaccented) forms of form words, for — as Gnutzmann (1975) has shown in a critical review of German elementary books for aliens — what they are taught exclusively are the corresponding 'strong' forms (i.e. their isolated pronunciations under accent).

What must be done, then, is to develop foregin language teaching programs so as to counteract interferences as the ones mentioned above. Consequently, contrastive analyses must be carried through with the specific aim to reveal the similarities and differences two or more languages exhibit with regard to phonological variation. The practical value of such studies will basically depend upon their descriptive and explanatory adequacy, which in turn follows from their theoretical and methodological background. In the following section we shall therefore assess critically the descriptive and explanatory potentials of current models of phonology with regard to adequately accounting for phonological variation.

2

Due to an increasing interest in the psychological and sociological variables governing language use, phonological variation has been investigated more and more during the last decade, both within interdisciplinary research and within phonological theory proper. Before that time, however, no explicit attempt had been made to inquire into the form and nature of phonological variation. The few structuralistic investigations systematically concerned with the description of more than one phonological style of a language suffer from the embarrassing fact that both, the allophonic distribution and the phonotactic behavior of phonemes within one style do not hold across the phonostylistic scale. The only principled way out of this dilemma would be positing 'coexistent phonemic systems' (cf. Fries & Pike (1949)), i.e. performing separate and different phonemic analyses for every phonostylistic level. This would in turn result in such an enormous increase of analytical work to be done that every phonologist would have to refrain from this solution for practical reasons. What structuralists have rather been doing is to give fairly unprecise characterizations of the fluctuations of phonological constraints between different styles in terms of 'phonemic stability/instability'.

Descriptions of this sort merely focus on differences in the *functional* (i.e. phonemic vs. allophonic) status of the correspondent phonological units of different styles, and it is highly doubtful whether such descriptions are able to point out significant properties of phonological variation at all. What remains to be done in any case is to give a systematic account of the *regular phonetic correspondences* holding between the phonological units of different phonostylistic levels; studies of the above sort tend to severely neglect this latter point. Such regular correspondences can apparently be described best within a processual framework, i.e. one has *processes* to derive from a common *item* the phonetic forms of any given phonostylistic level. Among the phonological frameworks qualifying as processual, Standard Generative Phonology (SGP) (as initiated by Chomsky & Halle (1968) and continued by, e.g., Kiparsky

(1968; 1973)) because of its methodological and substantial principles clearly provides the best theoretical background for an adequate recording of phonological variation. [4] In particular, the importance of at least the two following basic principles of SGP must be pointed out:

1. The assumption of grammatical prerequisites to phonology; many phonostylistic rules turn out to be sensitive to lexical, morphological and syntactic information to the same extent as obligatory (see, however, footnote 11) phonological rules.

2. The strategy of derivation of phonetic output forms by means of ordered application of phonological rules on a relatively abstract underlying form (thereby covering the whole range of morphonological variation): It can be used to relate the phonostylistic variants of a lexical item as well (cf. Dressler (1972; 1975)).

Although SGP, in principle, qualifies a promising framework for an economic as well as theoretically sound description of phonostylistic data, its substantial and methodological principles should be supplemented by some basic assumptions of *Natural Process Phonology* (NPP): NPP is used as a cover term for theoretical work represented in a number of articles by David Stampe (1969; 1972), Pat Miller (1972; 1973), Arnold Zwicky (1972), Gaberell Drachman (1977a), and Wolfgang Dressler (1972; 1975; Dressler & Drachman(1977)), all of them dealing either with the processual aspects of phonology or with phonological variation proper. We shall try now to extract those results of NNP which directly bear upon the problems of describing (and contrasting) polystylistic phonological (rule-) systems.

3.1

According to Stampe (1969; 1972) the productive part of the phonology (i. e. productive phonological rules *as well as* live morpheme structure constraints) of a language x is made up of *natural phonological processes*. Natural phonological processes form a class of universal phonological substitutions creating phonetically plausible sound patterns. A language x can be said to choose among this class all the processes operative in x, and adapt them in such a way that they act as language-specific morpheme structure conditions and

[4] For a rare example of a structuralistic study concerned with both, the functional (scil. *'functional'* as used by structuralistic phonologists) and the *processual* aspect of phonological variation, see Thurow (1977). Thurow uses an item-and-process model as a descriptive framework, whereas most structuralists have adhered to item-and-arrangement procedures. It must be pointed out, however, that the above mentioned descriptive shortcomings of structuralistic investigations can only partially be attributed to this methodological difference; they are rather due to the structuralists' overrating of the *phonemic vs. allophonic principle* of phonological analysis.

phonological rules respectively, producing but language-specific phonetic output forms; that is to say, the application of natural phonological processes within a particular language is controlled by language-specific constraints. What makes this concept of process phonology highly attractive for our purposes is the following:

1. It permits a principled account of phonological variation. Interstylistic differences of phonetic patterns become easily derivable if one assumes that the constraints on the application of phonological processes vary systematically from style to style. This means that, e. g., a process which operates exclusively within morphemes in one style is allowed to additionally apply across morpheme boundaries in another style, and even across word boundaries in a third one; likewise, two processes standing in a bleeding relationship in one style may feed each other within another style. Finally, processes which do not operate in certain styles (i. e. are suppressed in those styles) come up in other stylistic forms of speech.

2. By attributing processual properties to both, morpheme structure conditions and phonological rules NPP permits a unified characterization of productive phonological regularities as processes. This permits us to explicitly account for the rather frequent fact that in cases like the Italian and German ones below a morpheme structure condition *and* a phonological rule — though operative on different phonological structures on different levels — may express one and the same phonotactic regularity. [5] Moreover, if we imagine a morpheme structure condition of a language x and a phonological rule of a language y providing phonotactically identical structures, the relevance of this unification of description for contrastive analysis becomes obvious, since it is by no means clear how a morpheme structure condition and a phonological rule *as such* can be compared with each other, SGP allotting entirely different statuses to them. [6]

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[5] In Kisseberth's (1970: 294) words: "As is often the case, phonological rules... in a sense 'recapitulate' the morpheme structure condition(s)". See also Wojcik (1976) for a discussion of this point.

[6] This must not be misunderstood as denying the motivatedness of differentiating between morpheme structure conditions and phonological rules (as does, e.g., Hooper (1976) from the point of view of Natural Generative Phonology). It has been shown by numerous authors (see Dressler (1977: 54 - 57) for a review) that morpheme structure conditions can legitimately be postulated on various grounds. One may summarize all these arguments in favor of morpheme structure conditions: there are *indeed* (1) phonotactic regularities which hold *exclusively within* morphemes as well as (2) phonotactic regularities holding within morphemes on the *systematic phonemic* (=*abstract*) *level only*. What adherents of NPP have stressed rather, is the necessity of characterizing the properties common to both morpheme structure conditions and phonological rules in terms of natural phonological processes.

3.2

A natural phonological process is defined in essence by the change in the phonetic composition of the phonological entities it applies to. Typical natural phonological processes are vowel nasalization, palatalization of consonants, development of tonal patterns due to the influence certain consonantal articulations exert on fundamental frequency, etc.. The extent to which a natural phonological process operates in a given language can be characterized by listening to its PATIENTS (i. e. the phonological entities undergoing the process), its AGENTS (i. e. the phonological entities causing the process to operate), its ENVIRONMENTS (i. e. the applicational domains where the process operates), its DIRECTIONS (leftward/regressive vs. rightward/progressive, proceding from the AGENT). [7] Considering NPP's assumptions on phonological variation presented under 3.1., one expects the classes of patients, agents, environments, and directions (as well as the interplay between individual processes, see 3.1. (1.) above) to vary from style to style. Phonological variation within a particular language becomes describable (at least for the greater part), then, by accurately registering the cross-stylistic extensions/ /restrictions of the patient, agent, environment and direction classes of the processes operating within this language.

3.3

In Dressler-Drachman (1977) (see also Dressler (1977: 14,25)) a distinction is made between *clarification processes* which strengthen the phonetic content of their patiens by improving their articulation and by dissimilating them from their phonological environments, and *obscuration processes* which fuse their patients with neighbouring phonological entities in order to provide for coarticulatory ease. Since obscuration processes will necessarily reduce both, the perceptual quality and the syntagmatic transparency of morphemes (by creating fusional transitions), they can be expected to be either fully suppressed

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[7] The terms *patient*, *agent*, and *environment* were introduced by Drachman (1977). Differentiating between *agent* and *environment* captures the important difference between *cause* (e.g. any nasal consonant for vowel nasalization) and *sponsor/inhibitor* of a given process, a difference not explicitly expressed by the traditional phonological rule format. Environments may be of a purely phonological nature (e.g. vowels (PATIENTS) nasalize due to the influence of following nasal consonants (AGENTS), provided the nasals are in turn followed by spirants (ENVIRONMENTS)); they may, however, bear morpho-syntactic (boundaries!) as well as lexicosemantic information. See Drachman (1977: 90, and passim) for further examples.

or at least heavily restricted in careful styles, and to increasingly generalize as speech becomes more casual. Clarification processes, on the other hand, are typical of formal styles, and are less and less applied as casualness increases. [8]

4.0

In what follows we shall try to give substantial illustrations to the 'philosophy' of NPP, presenting a polystylistic account of nasal assimilation in German and Italian. *Nasal assimilation* is a natural phonological process recurring in many languages which assimilates-in-place a nasal consonant. We shall start with a rather informal (and slightly simplified) presentation of the Italian and German data. Afterwards we shall try to systematize (and hopefully render comparable) the fairly disparate data of both languages by means of the heuristic and descriptive devices of NPP outlined above. In addition to our observations we used data from the following phonological studies: Muljačić (1969), Saltarelli (1970), Mioni (1973), and Gnerre (1976) for Italian; Wurzel (1970), Dressler (to appear), Wodak & Dressler (to appear) for German. Moreover, it must be stressed from the very beginning that the phonostylistic data to be presented below slightly reflect the authors' dialectal origin: Tuscan Italian and Standard Viennese German.

4.1

Italian has a morpheme structure constraint which disallows non-homorganic nasals preceding obstruents or nasals, providing for the place specification of the nasals in (1). [9]

[8] Intensive comparative studies on a number of natural phonological processes carried out by adherents of NPP, and others, have resulted in establishing hierarchies (see Zwicky (1972), Drachman (1977a)). Hierarchies are universal (i.e. cross-linguistically significant) scales of preference for the potential agents, patients, environments and directions of a given process (e.g. a PATIENT-hierarchy of vowel nasalization would have to express the typological generalization that low vowels are more liable to nasalize than mid vowels or even high vowels). A hierarchy is expected to account for two things: First, is should express the probability for a given segment to be actually found acting, as, say, patient of vowel nasalization in any particular language with nasalized vowels. Second, it should also predict in which way a given, say, patient class will enlarge/reduce as the process takes its way across the phonostylistic scale. Thus the worker in the contrastive field is provided with expectations about what kind of phenomena he is likely to find, although, of course, every language will to a certain degree deviate from these universal tendencies. We do not want to go into a more extensive discussion of this point, because there are as yet no established universal hierarchies for nasal assimilation, to be investigated in 4. below.

[9] Examples are written in a 'very broad' (near phonemic) transcription; ń and m̥ denote palatal and labio-dental nasals respectively, ę and ǫ open mid vowels. Phonetic

OBLIGATORY FOR ALL STYLES:

(1) tomba, ęmpito, triomfo, imvido, onda, mentsionare
mandzo, pęnso, kǫnššo, mantša, mandžare, baŋka,
aŋgolo, džęmma, dǫnna, deńńo

In addition, Italian has a phonological rule of nasal assimilation applying across morphosyntactic boundaries [10] which extends its application with progressive casualness of speech, as can be seen from the list in (2a - d) (cf. Gnerre (1976: 289 - 292)).

OBLIGATORY FOR ALL STYLES:

(2a) assum+to —→ assun+to
spęń+to —→ spęn+to
in+patsiętsa —→ im+patsiętsa
in+grato —→ iŋ+grato
in+mǫbile —→ im+mǫbile

OBLIGATORY FOR LESS CAREFUL (=colloquial) STYLES:[11]

(2b) kon # permesso → kom # permesso
kon # grandettsa → koŋ # grandettsa
kon # malitsia → kom # malitsia

Fed by a rule which deletes the final vowel of certain endings of (in order of preference) auxiliary verbs ((2c), already in colloquial styles), modal verbs and

detail is given only to those parts of the transcript which are of immediate interest for the phenomenon under concern. This must be kept in mind especially for German casual speech forms which considerably differ from the forms cited below because of the operation of other casual speech rules affecting vowel quantity and quality. The effect of these rules on the phonetic output will be *neglected* for sake of clarity.

[10] As for boundary symbols used, '+' denotes a boundary of both inflectional and derivational morphology; '#' denotes a boundary between clitics (stressless) words and stressed words (as well as a boundary between compound constituents in German examples); '##' signals a boundary between stressed words. It must be pointed out, however, that the assignment of a particular boundary symbol to a given syntactic construction will often appear to be rather ad-hoc, since at the moment theoretical knowledge about boundaries available to the analyst is rather scant.

[11] Rather than classifying rules as *obligatory* vs. *facultative* we consider all rules to be *obligatory within certain styles*; this results from the basic assumption of NPP on the organization of polystylistic phonological systems, according to which a phonological style can be unequivocally defined as a cooccurrence of a number of specifically adapted natural phonological processes. Once a given style has been chosen on extralinguistic grounds, the speaker simply *must* apply all style-specific processes. 'Obligatory rules' in traditional terminology are simply rules which *invariably hold for all styles*.

full verbs (2d), the nasal assimilation rule even applies across # # — boundaries in casual styles:

(2c) abbiamo # gridato → abbiaŋ # gridato

OBLIGATORY FOR CASUAL STYLES:

(2d) pǫ̃ssono # # pagare → possom # # pagare
mandžano # # pane → mandžam # # pane

4.2

When compared to Italian, German turns out to be less restrictive as far as morpheme-internal nasal-consonant sequences are concerned: |m| may precede non-homorganic dentals and velars as well as homorganic labials, cf. (3) vs. (4):

(3) hemdən, zamt, amzəl, imkər
(4) ambos, lumpən, šimpf

|n| is found before homorganic dentals, quasi-homorganic palatoalveolar |š|, and palatals, cf. (5) and (6):

(5) endə, entə, aǫns, unzər, gants, menš
(6) fynf, manǫ

|ŋ| may precede homorganic velars, i.e. properly speaking |k| only (cf. (7)), since the few instances of morpheme-internal |ŋg|-clusters are exclusively found in non-native words. Additionally, there is a rather limited group of morphemes with heterorganic |ŋs|-sequences, cf. (8):

(7) baŋk, kraŋk, zeŋkə
(8) aŋst jyŋst, leŋs

Since there are good arguments to derive *all* context-independent instances of |ŋ| (those in (8) as well as those in *ziŋən*, *šviŋən*, which form minimal pairs with *zinən*, *švimən*, thus qualifying ŋ as a taxonomic phoneme) from underlying /ng/ (via ng → ŋg → ŋɸ, cf. Dressler (to appear)) the following rule of nasal assimilation (9), corroborated in some cases by a rule of *g-loss after* ŋ (cf. (10)), will be made responsible for all the velar nasals presented above:

(9) $n \rightarrow [+back] \quad / \underline{\quad}^{c}[+back]$

(10) Sample derivations:

	/bank/	/angst/	/zing+ən/
nasal assimilation	baŋk	aŋgst	ziŋg+ən
g-loss after ŋ	——	aŋst	ziŋ+ən
	[baŋk]	[aŋst]	[ziŋ+ən]

Morpheme structure conditions will account for all instances of complementary distribution of |m| and |n|, i.e. the positions before the labials (where only |m| appears, cf. (4)) and before |ts|, |š|, |f|, and |ç| (where only |n| appears: *gants, mensˇ, fynf, manç*).

As for assimilations across boundaries, the most formal style lacks them completely; with increasing casualness |n| (but never |m| or |ŋ|) assimilates-in--place to a following obstruent or nasal (with the exception of a following palatal |j|, |ç|), surmounting progressively stronger boundaries, as can be seen from the forms in (11a - c):

OBLIGATORY FOR ALL STYLES EXCEPT THE MOST FORMAL ONE (across '+'-boundaries):

(11a) an+pakən → am+pakən
an+fy : rən → amˌ+fy : rən
an+maxən → am+maxən
an+kla : gən → aŋ+kla : gən

But *never*: um+diçtən → *un+diçtən
ziŋ+t → *zin+t

OBLIGATORY FOR COLLOQUIAL SPEECH (across '#'-boundaries):

(11b) an#pe : tər → am#pe : tər
ren#pfe : rt → rem#pfe : rt
an#gerda → aŋ#gerda

OBLIGATORY FOR CASUAL SPEECH (across '# #'-boundaries):

(11c) 'die Auto *bahn bauen*'
ba : n # # baɒən → ba : m # # baɒən

Note that inspite of |n| being assimilated across progressively stronger boundaries, the distribution of |m| and |n| *within* morphemes remains the same throughout the phonostylistic scale, with the minor exception of |n| being assimilated-in-place to labiodental fricatives, as speech becomes more casual, *fynf* being realized as *fymf*.

As soon as forms like those in (11b) appear, a rule of *progressive nasal assimilation* begins to operate (both within morphemes and across '+'-boundaries), assimilating a following syllabic nasal to the place of articulation of any preceding consonant (again with the exception of |ç| and |j|). A number of other rules have to do preparatory work to provide for its applicational conditions:

First, a ***schwa-deletion*** rule deletes the |ə| in forms like in (12a):

(12a) a : bənt, ju : gənt, ge : gən, trep+ən, li : b+ən,
laɋf+ən, lø : v+ən, kempf+ən, kom+ən, bak+ən,
raɋx+ən, ziŋ+ən

Second, ***resyllabification*** yields

(12b) a : bnt, ju : gnt, ge : gn, trep+n, li : b+n,
laɋf+n, lø : v+n, kempf+n, kom+n, bak+n,
raɋx+n, ziŋ+n

which are 'intermediate' forms only, i.e. constitute no possible output forms. Progressive nasal assimilation has to apply *obligatorily* now, giving

(12c) a : bmt, ju : gŋt, ge : gŋ, trep+m, li : b+m
laɋf+m, lø : v+m, kempf+m, kom+m, bak+ŋ,
raɋx+ŋ, ziŋ+ŋ

It is interesting that this progressive type of nasal assimilation, unlike the regressive one which exclusively applied to |n|, is 'strong' enough to yield *atŋ* for careful speech *atəm*, i.e. applies both to |n| and |m|.

With increasing casualness progressive nasal assimilation may extend its domain of application even across '#'-boundaries, cf. (13):

(13) 'Ich *mache ihn* auf'[12]
max(ə)# i : n → max # ŋ

5

Nasal assimilation being a typical *obscuration process* (it provides for homorganic articulations, thereby saving a considerable amount of articulator movement, regardless of a resulting reduction of morpheme transparency) we expect it to maximize its application with increasing casualness of speech. And this is exactly what happens both, in Italian and German, the extension affecting the agents, patients, environments, and directions of the process. This cross-stylistic expansion of nasal assimilation along the phonostylistic scales of German and Italian is given schematically in Tables 1 and 2 below. Let us consider Italian first: here the cross-stylistic extension is in two steps and exclusively involves the *environment* specification of the process. Its minimal application (i.e. its 'obligatory' application in traditional terms), indexed EXT 0, is within morphemes ('+__+') (where it applies to |n| as its sole patient), *functioning* as a morpheme structure condition, and across

[12] Here a number of other rules have to derive the weak forms of form words like ɨ : *n* first, which then form the input of progressive nasal assimilation (for a detailed account, see Gnutzmann (1975), and Kohler (1977: 219 - 230)).

4*

Table 1

NASAL ASSIMILATION IN ITALIAN

	DIRECTIONS	PATIENTS	ENVIRONMENTS +__+__+__ __#__ __##__
EXT 0:	regressive	n	all agents
		m, n, ń	all agents
EXT 1:	regressive	n	all agents
		m, n, ń	all agents all agents
EXT 2:	regressive	n	all agents
		m, n, ń	all agents all agents all agents

AGENTS:									
Stops	*p*	*b*	*t*		*d*		*k*	*g*	
Affricates			*ts*	*tš*	*dz*	*dž*			
Fricatives	*f*	*v*	*s*	*š*	*z*				
Nasals	*m*			*n*		*ń*			

Table 2

NASAL ASSIMILATION IN GERMAN

	DIRECTIONS	PATIENTS	ENVIRONMENTS +__+__+__ __#__ __##
EXT 0:	regressive	n	k, g; p, b, pf ts, š
EXT 1:	regressive	n	k, g; p, b, pf ts, š
		n	all agents
EXT 2:	regressive	n	k, g; p, b, pf ts, š, f, v
		n	all agents all agents
	progressive	m, n	all agents all agents
EXT 3:	regressive	n	k, g; p, b, pf ts, š, f, v
		n	all agents all agents all agents
	progressive	m, n	all agents all agents all agents

AGENTS:									
Stops	*p*		*b*	*t*		*d*	*k*		*g*
Affricates	*pf*			*ts*					
Fricates	*f*		*v*	*s*	*š*	*z*	*x*		
Nasals		*m*			*n*			*ŋ*	

morpheme boundaries ("__+__") (where |m|, |n|, and |ń|) are its patients, *functioning* as a phonological rule there. With progressive casualness, nasal assimilation expands its applicational domain across clitic boundaries ("__#__") first (EXT 1), and across stressed-word boundaries ("__##__") then (EXT 2). The *direction* of nasal assimilation as well as the *agent*-class (given beneath

Table 1)[12] remains the same for all three adaptations of the process. In German, nasal assimilations extends in three steps. Here we find both, a *regressive* and a *progressive* variant (the regressive variant being the basic one : it appears throughout adaptations EXT 0 to EXT 3 of the process (see Table 2)). The *patient*-class for regressive nasal assimilation remains the same for all extensions, namely |n| only, whreas the progressive variant applies to both (syllabic) |n| and |m|.

— In EXT 0, in its maximally restricted form (in very careful speech) nasal assimilation applies *regressively* only, *triggered* by (1) the velar stops (thereby *functioning* as a phonological rule) as well as (2) by a class of *agents* (|p|, |b|, |pf|, |ts|, |ʃ|) before which |m| and |n| are in complementary distribution (thereby *functioning* as a morpheme structure condition).[13]

— EXT 1 involves the application of the *regressive* variant of the process across morpheme bountiaries, being triggered by *all agents* listed beneath Table 2.

— In EXT 2 the *environment* of *regressive* nasal assimilation comes to include clitic boundaries as well, with the same *agent*-class as in EXT 1. At the same time, the *progressive* variant of nasal assimilation, being in turn triggered by an *all-agent-class*, becomes operative, acting both within and across morpheme boundaries. Finally, |f| and |v| are added to the morpheme-internal *agent*-class of the *regressive* variant.

— EXT 3 consists in an expansion of the *environments* of both, the *regressive* variant (across "+ +"-boundaries) and the *progressive* variant (across "+"-boundaries) with the same *agents* as before.

6

To summarize, we have tried to exemplify how Natural Process Phonology (NPP) contributes to a better understanding and description of phonological variation. In particular, we have emphasized NPP's basic assumptions on the processual organization of (polystylistic) phonology, according to which differing phonetic patterns of different styles are generated by various applicational adaptations of natural phonological processes. Additional fundamental principles of NPP permitted us to characterize phonological rules and morphe-

[12] *Agents* operating within a given environment are listed in the column of that environment.

[13] It is important to note here that the process does not account for *all* the cases of complementary distribution of nasals before consonants reported in 4.2.: the exclusive appearance of |n| before |f| and |ç| cannot be considered as being generated by the natural phonological process of nasal assimilation, since no homorganicity is achieved; instead, a simple redundancy will capture these distributional regularities.

me structure conditions in a uniform way, and to develop valid hypotheses about the extent of application natural phonological processes exhibit in different styles. Thus, we tried to justify our initial suggestion to include the theoretical outcomes of NPP into the heuristics and the methodology of analysis of phonological variation.

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TOWARDS A CONTRASTIVE PRAGMALINGUISTICS*

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INTRODUCTION

There are a number of important aspects of language behaviour which are not amenable to the theories and procedures of classical Contrastive Analysis. In particular Contrastive Analysis has failed to deal with problems of meaning, language use and the various linguistic aspects of interaction. One reaction to this state of affairs is the attempt being made to develop the semantic component of Contrastive Generative Grammars (cf. KRZESZOWSKI 1972, 1976), and it does indeed seem that valuable insights may be gained thereby.

Another reaction, though, has been to turn away from meaning as represented by deep structures "inside" sentences and to investigate it instead as it is manifested in social acts "outside" sentences. The focus of such an approach is not on the theories, models and data of linguistic structures but on the social patterning of discourse and interaction. For the Pragmalinguist, then, it is language functions rather than linguistic structures — discourse, not grammar, the communicative act in context, not the sentence in isolation — which are central to his investigation.

Can the Contrastive Analyst benefit from such an approach? Is the work being done in Pragmatics (as well as in related fields such as Discourse Analysis, Social Psychology, Sociology) of value to him? This paper suggests that it is; indeed, it is based on the 'strong hypothesis' that Contrastive Analysis without a pragmalinguistic dimension is inadequate.

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* Much of the work described in this paper has been carried out with two of my colleagues in the CRAPEL, M.J. Gremmo and H. Holec: I take this opportunity of expressing to them my affection and gratitude — whilst in no way trying to share the blame for any mistakes and over-generalisations contained herein!

This suggestion is not a new one (GLEASON 1968; HARTMANN 1977) and a valuable programmatic statement of aims and objects has been made (SAJAVAARA 1971). But when we come down to the nitty-gritty we find that, in fact, very little has been done, since no suitable model of pragmalinguistic or interactive structure has been available for the Contrastive Analyst to use even if he wanted to.

So this paper is a first, tentative step in that direction. It is possibly also over-ambitious, and wrong-headed: but it does try, through the analysis of concrete examples, (however inadequate), to make a practical and not just a theoretical contribution to the field.

I – *OUTLINE OF A MODEL OF PRAGMALINGUISTICS*

In this section, we will be considering very briefly a model of pragmalinguistics which has been developed at the CRAPEL over the last four years. Obviously, this is not the place for a detailed discussion of the status and scope of pragmalinguistics (see STALNAKER 1972) but one or two points need to be made if the relevance and perspective of what follows is not to be distorted.

1. Meaning as a construct of behaviour

We would like first to draw attention to the meaning of *meaning* as it is used here. For the pragmalinguist and the student of interaction, the traditional philosophical and semantic accounts of meaning are of little use or validity; isolated, de-contextualised objects or concepts are unsuitable tools for the description of the dynamics of communication. Rather, he sees meaning as a construct of interaction, and he studies the ways in which participants in a communicative event create, relate, organise and realise meaning in behaviour.

(As will probably be immediately obvious to the reader, the term *pragmalinguistics* is not used here in the sense in which it is used by some philosophers of language, whose main interest is restricted to the referential operations of the verbal code. (Deictics, pronouns, negations, etc.) Such an approach offers little more to the understanding of interactive meaning than does traditional semantics).

The pragmalinguist regards attempts to define *the* meaning of meaning as a Will o' the wisp: meaning for him resides in and is conveyed by the combinations and the relationship between a number of semiotic channels, and it is these operations which form the primary object of his study. He studies and attempts to account for all contributions to communicative interaction, whether verbal, paralinguistic (i.e. vocal non-verbal) or non-verbal. Semantics,

with its traditional focus on the verbal component alone, is of little help in the description and analysis of communicative behaviours involving the whole spectrum of sensory categories — paraphonology, key, intonation, gaze, facial expression, gesture, touch, smell, orientation, proxemics, as well as a myriad of social and situational features.[1]

A fundamental concept for the pragmalinguist, then, is that of the *act of communication*, of which the *speech act* is simply one possible realisation. A nod of the head can communicate agreement just as efficiently as the word 'yes': so, too, can a smile and gesture, acquiescence or the right choice of intonation or key. And this is a crude, over-simplified example, since the meaning of an act of communication is often the sum total of words plus facial expression, plus key, etc., — plus all the situationally relevant features. Meaning is the relationship specified by these phenomena in combination.

This objection applies just as strongly to even the most sophisticated kind of Contrastive Generative Semantics, which still has as its object the meaning of the isolated sentence. To put it another way, a bilingual informant's intuitions about equivalence (the sort of thing one might 'get at' via the deep structures and semantic component of a contrastive TGG) will *not* be enough to satisfy the criteria for meaning discussed here: they will still only provide information about a range of possible interpretations in context. No matter how much the grammarians manage to reduce semantic vagueness, isolated sentences will always remain pragmatically vague since they lack the interactive dimension. Again, no amount of cobbling with context-sensitive rules or whatever can repair the basic premise of semantics, namely, that all meaning is internal and verbal. The meaning of face-to-face interaction is an amalgam of information from many channels and, in particular, the discourse structure is mainly marked non-verbally. No account of meaning is adequate which fails to take into consideration such vital questions as who is speaking to who? When? Where? What is the nature of their relationship? Of the circumstances? What activity are they involved in? What is its purpose and that of the communication?

At the double risk of labouring the point and of caricaturing alternative approaches, let us consider an example:

There is an oak-tree in the middle of the meadow.

This, you will agree, is the sort of sentence that often gets taken for semantic analysis. Traditional semantics has been limited to the study of propositions ('sense'). Essentially, this has meant the elaboration of rules for

[1] For a discussion of the integration of non-verbal communication into discourse analysis, see RILEY (1975, 1976); the discursive role of intonation ('key') is the subject of BRAZIL (1976).

testing the truth of propositions: with relative ease, the semanticist can set up and define classes of referent, to which he can attribute such objects as 'oak-tree' and 'meadow'. He can describe the relationship which is predicated between them, whether oak-trees are the sorts of things one finds in meadows, and so on.

But when a sentence occurs in discourse, as one of a series of utterances, it derives contextual meaning from them (or they select meanings for it). Some of these meanings *may* be connected with the constituent elements of the sentence in isolation (oak-tree, meadow, etc.) but a whole new interactive dimension is also added whose meanings cannot be predicted from the sentence in isolation. The reader is invited to imagine that he is the Sherrif-hero of a Western, who has just been captured by the Villain and a band of henchmen. The henchmen are urging their leader to hang the Hero. "Aha!" says the Villain, with a twirl of his black moustaches, "there is an oak-tree in the middle of the meadow".

However inveterate a semanticist, it is unlikely that the reader would start examining the truth of this utterance. Both he and the henchmen would be interested in it as a *reply* and as a *suggestion* —major meanings which it could only have in context, its meanings as a communicative act.

2. *Illocution*[2]

Within Pragmalinguistics, the study of communicative acts rests on the theory of Illocution (AUSTIN 1971; HOLEC 1975; SEARLE 1969). Communicative acts may be realised verbally, paralinguistically or non-verbally. That is, the *speech acts* to which most writers on the subject limit their attention are only one type or realisation of the wider class, communicative acts.

Communicative acts include inviting, accepting, agreeing, disagreeing, explaining, denying, suggesting, hypothesising, promising, offering, etc. The illocutionary value (or *function*) of each acts reflects directly the use which the actor ("speaker") wishes to put it to: loosely, it can often be regarded as an exteriorisation of his intention in carrying out that particular act rather than another.

The illocutionary value of communicative acts has no direct link with their formal realisation. In different contexts, a given grammatical structure may realise a wide range of functions: and, vice-versa, the same function may be realised by a wide range of different grammatical structures. Structures and functions are not in a one-to-one relationship: the point is not a new one, but it is worth exemplifying as it is the distinguishing feature of pragmatic as opposed to grammatical descriptions.

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[2] The term is taken from AUSTIN (1971).

(i) *Same form, different functions*:

You're not going out

a) *Prohibiting* — father to a child with a cold: it is raining.
b) *Confirming* — I am reacting to the statement of a friend with a cold: he says he's staying in all day.
c) *Threatening* — kidnappers to victim
d) *Expressing surprise* — but I thought we were going to see this afternoon's game together!
e) *'Stating'* — if anyone calls you'll be here to answer the door.

(ii) *Same function, different forms*:
Agreeing

a) Yes, sure, right, fine, O.K., Bob's your uncle, etc.
b) Repetition (You're leaving? I'm leaving).
c) Nod of the head
d) I agree, I accept your point, I see what you mean, etc.)
e) No, I suppose not (You say you can't do it now...)

When we talk about the 'same' form or realisation in group (i), it should be clear that we are referring to identity at one level of description only, the morpho-syntactic level. It is precisely because there will be many differences at other levels (paralinguistic, non-verbal, situational) and because these differences will result in differences of meaning, that we must go beyond the semantico-grammatical into the pragmalinguistic. To put it more bluntly, whatever the differences between the items in group (i) are they are important, and they are not grammatical.

The second important point which needs to be made is that non-verbal behaviours which realise communicative acts must necessarily be regarded as having an illocutionary function. In group (ii) above, we included the head-nod as a realisation of *agreeing*: other examples are not difficult to find —

a) *disagreeing* with a shake of the head,
b) *greeting* (wave and/or eyebrow flash)
c) *declining*(e.g. by placing one's hand over a cup or glass when offered more to drink)
d) *insulting* (e.g. giving someone the obscene V-sign)
e) *commanding* (e.g. by beckoning to someone)

3. *Some remarks on Non-Verbal Communicative Behaviour*

Obviously, not all non-verbal behaviours have illocutionary force: those we have classed as *indices*, for example, may carry information about the participants in an interaction which is of general pragmatic interest but

which is so low on the scale of linguisticness as to be usually irrelevant to the discourse analyst. (See RILEY 1975). The remaining non-verbal behaviours have been categorised as follows:

(i) Those having *illocutionary force* (see above)
(ii) *Kinematopoeias* ("illustrators")
(iii) *Deictics*
(iv) Regulators of *interactional tactics*:
— turn-taking signals
— attention signals
— address signals

For present purposes we would like to concentrate on the non-verbal behaviours in group (iv), the regulators of interactional tactics. These behaviours are the regulative mechanisms of interaction: they govern the distribution of utterances and the transitions from speaker-state to listener-state and to addressee. They are sets of rule-governed behaviours which control the sequential structure, timing and distribution of utterances: who speaks when, and to whom. We have claimed that meaning in face-to-face interaction is a construct of behaviour: it is these behaviours and the rules which govern them which permit the negotiation between participants which is necessary if their individual contributions are to mesh at all levels, as it must do if any sort of communication is to take place.

Work by Duncan (1972, 1973) and by Kendon (1964, 1967) has described the mechanisms involved in *turn-taking*, and *attention*, particularly those concerning gaze. For example, a speaker who wishes to yield the floor will make eye-contact with his interlocutor immediately before the end of his utterance. Other NV behaviours which may accompany or replace gaze here have also been identified and described: they include a number of postural and guestural behaviours, creaky voice, low key and cessation of body movement.

By *address* we mean that rule-governed set of verbal or non-verbal behaviours by means of which a 'speaker' selects and indicates his Addressee(s) in groups above the dyad.[3] When we interact in a group, we do not usually speak to all the group all the time, we speak to individuals or sub-groups. We have identified the following non-verbal behaviours as operating in the address system: eye-contact, head direction, orientation, posture and gesture. (Of course, address may also be realised verbally — "Would you like some tea, *Mary*?" — and indeed the choice of verbal address is proving to be a surprisingly useful marker for certain types of discourse).

[3] By Addressee we mean the participant (s) upon whom the Speaker imposes the duty/right to reply.

Address is a very simple behavioural system: it is also an extremely powerful descriptive tool. By observing address behaviour we are able to state accurately which participant(s) a speaker is "speaking to" for any given utterance. This means that we now have a way of coding utterances, or, rather *turns*, in all types of interaction. By distinguishing for each turn (1, 2, 3...) which participant (W, X, Y, Z...) is the Speaker (S), the Addressee(s) (A), the Listener(s) (L), we are able to code each turn in terms of *participant* states.

Since address (though not necessarily the behavioural mechanism which realises it) *is a universal* the Contrastive Analyst is now in a position to compare many important aspects of the discourse structure of different languages (An example is given below). Patterns of consecutive codings, expressed in terms of (1) The codings themselves, (2) Change of address and (3) Change of first Speaker, give us discourse units of varying types, corresponding to exchanges/transactions etc. As we try to demonstrate below, such descriptions provide us with valuable formalisations of social role, participant states, formality and situation, i.e. with information concerning precisely those non-semantic parameters of meaning which, it is the Pragmalinguist's contention, are essential to a description of interactive discourse.

4. *Outline of a Model of Discourse*

The considerations discussed above concerning

(i) Meaning as a construct of interaction

(ii) Illocution

(iii) Non-verbal communication

lead us towards a model of discourse (and eventually to a model of interaction) which differs radically from most others which have been put forward.[4] In very general terms, our work on the structures of written and spoken discourse has led us to the conclusion that, as one passes from discourse which is written, prepared and non-interactive to discourse which is spoken, spontaneous and interactive, structuration depends less and less on the ordering of the propositional content and more and more on the nature of the transaction. (RILEY 1975; ABE et al. 1975; DUDA 1974; ABE, DUDA & GREMMO 1977).

The investigator of authentic, spontaneous, spoken discourse who tries to base his analysis on a logical approach to propositional content is in for a rough time. Rather, we believe that the only practical approach is via the two other features of spoken discourse which we have already looked at briefly, namely

(i) illocution

(ii) non-verbal behaviours

[4] With the exception of WIDDOWSON (1977), where a tripartite division, very similar to the one suggested here, is also posited.

We can, that is, describe such discourse as a sequence of illocutionary acts and as a series of interactive acts. Such a distinction is all the more necessary when we consider that much non-verbal behaviour has *no* illocutionary value, its function being the regulation and marking of discourse structure. This gives us *illocutionary structure* (or "communicative" structure) and an *interactive structure* (or "discursive" structure). Since elements of the two structures are not in a one-to-one relationship, we may treat them as simultaneous but parallel.

Such an approach to discourse structure might be diagrammed in the following way:

By *Formal Structure* here we mean *realisation*: the set of message-bearing elements (verbal, paralinguistic, non-verbal) in a situation. These elements have substance and are realisations of various systems and structures whose organisation can be described in terms such as class, units, structure and distribution. The textual function of such elements is described in terms of their internal relations (and without reference to the meaning they carry).
Illocutionary Structure: here we deal with sequences of illocutionary acts (e.g. Inviting, Accepting, Confirming, Thanking). There is no one-to-one relationship between these acts and units of formal structure i.e. they are *not* related at different levels of delicacy.
Interactive Structure: here we describe linguistic organisation in terms of interactional tactics: turns (opening, reply, closing) address, relative distribution of utterances (exchange, transaction). There is no one-to-one relationship between interactive acts and illocutionary acts.

It may help clarify this set of distinctions if we take an example: let us imagine that Mr. and Mrs. A. wish to ask the way in London: they approach a stranger, Mr. B., and the following dialogue ensues:

1. Mr. A. : Sorry, but can you tell us the way to St. James' Park, please?
2. Mr. B. : Are you on foot?
3. Mrs. A. : Yes, we are. Is it far?
4. Mr. B. : Then you just go down those steps there and turn right.
5. Mr. A. : Thank you very much.

The *Illocutionary Structure* here is

1. Requesting information
2. Requesting information
3. Informing, Requesting information
4. Informing
5. Thanking

The *Interactive Structure* is

1. Opening) Exchange)
2. Response))
3. Opening)) Transaction
4. Response) Exchange)
5. Closing)
5. Closing

	1	2	3	4	5
Mr. A.	S	A	H	H	S
Mrs. A.	H	H	S	A	H
Mr. B.	A	S	A	S	H
	O	R	O	R	

An important theoretical point can be made here:
By distinguishing between these two types of act, the difficulty of handling the discursive embedding exemplified here is greatly reduced, since we do not need to define illocutionary acts by their place in structure. If that were the case, we would need, for example, a different definition of Requesting information for each of the first three places in the structure of this dialogue.

II — *CONTRASTIVE APPLICATIONS*

What use is this type of approach to the Contrastive Analyst? We can only hope to give hints, suggestions here, but we will make them as concrete as possible:

1. (a) We can compare the range of functions which a structure in one language can realise with the range of functions a similar structure in another language can realise.
   Let us take an example: in French, English and Swedish there is a structure If+(si, om) "conditional" clause. Observation leads us to the conclusion that the French structure can be used to realise at least three different functions:
   (i) *Hypothesising*
   S'il arrive, je le lui dirai.

(ii) *Requesting confirmation*
Si je suis prêt? (C'est bien ce que tu viens de me demander?)
(iii) *Sugesting*
Et si on allait au cinéma ce soir!

If we turn to colloquial Finnish-Swedish, we find that there too, the 'om and conditional' structure can realise these three functions:
(a) Om han kommer, ska jag berätta det för honom
(b) Om jag är färdig? (Jo, jo!)
(c) Om vi sku' gå på bio i kväll!

However, when we turn to English, we find a very different kettle of fish!
(a) If he comes, I'll tell him
(b)* If I am ready?
(c)* If we go the cinema this evening

Note what the asterisk means here: these perfectly correct grammatical constructions can not (=do not) function as *requests for confirmation* or *suggestions*.

The implications for Contrastive Analysis are considerable: any syllabus aiming at communicative competence will have to take such correspondences into account.

One could argue that Contrastive Analysis could start at an even more primitive level, that of *ethno-discourse*, i.e. those sets of presuppositions which speakers impose upon the reality their language dissects. However, although some extremely interesting work has been done by the ethnolinguists, anthropologists and socio-linguists, (FISHMAN 1971; GUMPERZ & HYMES 1972; LABOV 1972a and b; SUDNOW 1972) very little of it is sufficiently rigorous from the point of view of linguistic science and, to the best of our knowledge, no directly contrastive studies have been made on such a basis. Simply as an illustration of the lines such a contrast might take, let us examine the following exchange:

Child: Dad, I want to go to the match
Parent: I'm busy this afternoon in the garden

Now it is quite clear (to anyone who shares the presuppositions of these speakers' culture) that the Child is *Requesting* — "Please will you take me to the match" and the Parent is *Refusing* — "No, I can't". Yet if we took these two utterances separately, we would have no reason for labelling or interpreting them thus. It is their juxtaposition, their relationship in context which enables us to interpret them as acts of communication by bringing to bear on them the presuppositions of our ethno-discourse. Even for such a brief example it is difficult

to list the presuppositions exhaustively: a whole society is reflected in the word 'match' alone. Some of the presuppositions are startlingly obvious — which is just why we need them:

(i) The child cannot or does not wish to go alone
(ii) The parent can be expected to take the child
(iii) The parent is responsible for the child in some way
(iv) The parent has priority of choice
(v) The parent cannot be in two places simultaneously
(vi) It is possible for non-players to attend, etc. etc.,

It is important to remember, though, that there are societies where (ii) and (iii) would by no means seem obvious, for example. And why did the reader probably interpret this as a father/son exchange, not a mother/daughter one? And why might the author be thinking of a cricket match, but probably not the reader?

Child: Maman, tu m'achètes un nouveau sous-pull?
Parent: Ton pere dit que ça coûte trop cher.

Here again, we have Requesting-Refusing exchange, but a number of the presuppositions which enable us to identify it as such are different (e.g. Mother buys, Father pays: one cannot buy items which are too expensive, etc). By accumulating and analysing a large corpus of such exchanges, one would hope to define the elements of the ethno-discourse and a cross-cultural comparison would then be possible.

It is important to distinguish between two types of presupposition: the *knowledge of events* which individuals have, and may share, and which enables us to account for certain logico-semantic aspects of discourse structure in terms of A, B and A/B events, and the *knowledge of the universe* which is shared by all members of a speech community by virtue of their speaking the same language. This is not the place to discuss the Whorf-Sapir-Bernstein hypothesis that the language we use segments reality and our perception of the world: but the applied work by perceptual psychologists is beginning to reveal ways in which such problems can be studied objectively. In Berlin & Kay (1969) colour terms and perceptions in a wide range — of languages were compared and contrasted and Strömnes (1977) has carried out a contrastive study of the spatial relationships in Finnish and Swedish. There seems no reason why such techniques should not be applied to certain other notions such as time, size, order and growth.

(b) Let us now reverse the process: this time let us take one particular function — *Suggesting* — and look at some of the various realisations

which can occur (in the same three languages):

French — Et si on allait au cinéma ce soir.
On pourrait peut-être aller au cinéma ce soir.
Vous n'auriez pas envie d'aller au cinéma ce soir.
Une possibilité serait d'aller au cinéma ce soir.

Swedish — Jag tänkte att vi kunde gå på bio i kväll
Hur skulle det vara att gå på bio i kväll?
Vi kunde gå på bio i kväll, eller hur?
Om vi skulle gå på bio i kväll!

English — How about us going to the cinema this evening?
I tell you what, let's go to the cinema this evening.
Why don't we go to the cinema this evening.
I wouldn't mind going to the cinema this evening.

This list is by no means exhaustive, of course, but it fully confirms the logical points that a communicative syllabus cannot be based on a structural progression and that comparisons of this type will provide immediately useful data.

An extremely interesting and important question will be to see whether there are functions which may be realised in, say, the verbal component of language A, but which are realised in the paralinguistic or non-verbal components of language B. Work on intonation and key seems to indicate strongly that this is indeed the case, as does our own work on non-verbal communication. However, to the best of our knowledge, little specifically contrastive work has been done on this problem.

(c) This time, instead of taking sentences/functions in isolation let us consider them in sequence; that is, we are going to look at illocutionary structure. Obviously an enormous amount of descriptive work still remains to be done before such comparisons influence syllabus design: only after corpora of authentic recordings have been analysed can we hope to have the accurate data essential to a valid contrast. But, in principle, there seems to be nothing to stop us proceeding as follows:

English dialogue:
(1) That's a very pretty dress you're wearing.
(2) Oh, thank you very much.
Illocutionary structure: compliment + thanks.

Swedish dialogue:
(1) En så vacker klänning du har!
(2) Tack så mycket
Illocutionary structure: compliment + thanks

French dialogue:
(1) Que c'est jolie, la robe que tu portes!
(2)

Illocutionary structure: compliment –

Further examination would show that a French Compliment is never followed by an expression of thanks (a form such as *Merci beaucoup* occurring in this context would not be interpreted as thanks but might be as ironic commentary).

Such variations in illocutionary structure can, of course, be spread over much larger stretches of time. A hostess in Finland, for example, will expect to have to invite her guests to take their places at table at least three times: to all concerned, anything less would be an unseemly rush! Again, she would expect her guests, when they next met, to begin their conversation by thanking her for her entertainment (Tack för senast/Kiitos viimesestä) even if several *months* had elapsed between the two encounters. Neither in French nor English society is this usually the case. Examples of this sort abound; e.g. when entering a shop the Frenchman usually greets the other customers (Bonjour Messieurs-Dames): so does a German entering a railway compartment. But anyone who entered an English railway compartment or shop and proclaimed "Good morning, ladies and gentlemen" would get a distinctly frosty reception (unless he happened to be the ticket-collector). Again, a Frenchman attending a seminar or committee meeting with English speakers almost always manages to give the impression that he is slightly aggressive, over-categorical, "pushy": in fact, entry strategies in such situations differ considerably between the two languages, both in realisation and *modalisation*. Indeed, the whole structure of such meetings clearly differs from one side of the Channel to the other — but we will only know *how* exactly when the necessary detailed analyses have been carried out, and this is true of dozens of other situations including business negotiations, telephone calls, casual encounters, etc., etc.

By identifying foreign language learning needs and objectives in terms of the uses to which the learners will wish to put their language, it is hoped that more motivating and effective language programmes will be developed. At least, this is the rationale behind the Council of Europe-sponsored research into the Threshold Level/Le Niveau Seuil (Council of Europe, 1975, 1976) and indeed behind the whole movement towards "Communicative" or "Functional" Syllabuses. However, it is our contention that little of contrastive value will be produced as long as the confusion between *notions* and *illocutionary forces*, and between *illocutionary acts* and *interactional acts* continues.

2. *An example*

Let us now try our hands at a bit of contrastive pragmalinguistics. For analysis, we have chosen two passages of approximately the same length. In Passage A, and English teacher is preparing two French students, Mme. X and M. Z., to practice a dialogue. In Passage B, a French teacher is preparing a group of immigrant workers to do the same sort of thing. Intuitively, we regard these passages (which are both authentic) as "similar" in some way that is not just related to the content, but to deeper patterns of interaction and role.

PASSAGE A:

(The target discourse dialogue being prepared was:
"Can you tell me the way to Victoria Station, please".
"Certainly, it's down there on the right").

1. Teacher : Right... the bottom of the page, then... whose turn is is! Mme.X.
2. Mme X. : Is my turn! What —
3. Teacher : Is it my turn!
4. Mme! X. : Is it my turn!
5. Teacher : Good. Yes, I think it was.
6. Mme. X. : What means 'the way'?
7. Teacher : Anyone!
8. M. Y. : Le chemin, montrer le chemin.
9. Teacher : le chemin, right, good.
10. Mme. X. : "Can you tell me the way to Victoria Station, please!"
11.12. Teacher : Fine... M. Z!
13. M. Z. : "Certainly, it's down there, on the right".

If we analyse this passage from the point of view of its *illocutionary structure*, we get the following:

INTERACTIONAL STRUCTURE OF PASSAGE A

1. *Framing* *Directing* *Requesting information* *Nominating*
   Right bottom of the page then whose turn is it Mme X!
2. *Requesting confirmation*
   Is my turn! What —
3. *Correcting*
   Is it my turn!
4. *Practicing*
   Is it my turn!
5. *Evaluating* *Confirming*
   Good Yes, I think it was

6. *Requesting info mation*
   What means "the way"
7. *Performative*
   Anyone?
8. *Informing*
   Le chemin, montrer le chemin
9. *Confirming, evaluating*
   le chemin, right, good
10. *Practicing*
    Can you tell me the way to Victoria Station, please?
11. *Evaluating* 12. *Nominating*
    Fine... M. Z.?
13. *Practicing*
    Certainly, it's down there on the right.

The same passage analysed in terms of its *interactional structure* (in accordance with the system described above pp. 15) gives us the following profile:

ILLOCUTIONARY STRUCTURE OF PASSAGE A

Turn / participant	1	2	3	4	5	6	7	8	9	10	11	12	13
Teacher	S	A	S	A	S	A	S	A	S	A	S	S	A
Mme. X.	A	S	A	S	A	S	H	H	A	S	H	H	H
M. Y.	H	H	H	H	H	H	A	S	H	H	H	H	H
M. Z.	H	H	H	H	H	H	A	H	H	H	H	A	S

Legend: 1, 2, 3, etc. — turns ("interactional acts") in serial order (each turn may contain several *illocutionary* acts).
S — Speaker
A — Addressee (s)
H — Hearer (s)

1 2	3 4	5 6	7 8	9 10	11	12 13
O R	O R	O R	O R	O R	C	O R
Exchange	Exchange	Exchange	Exchange	Exchange		Exchange
transaction						

O = Opening, R = Reply, C = Closing (No *duty to reply* is imposed by the speaker on any other participant i.e. there is no address).

Turing to passage B, we carry out the same analysis. (The target discours being prepared was: "Tiens, bonjour Bashir"
"Bonjour Iovan"
Bashir and *Iovan* are names of characters in the text book.)

PASSAGE B:

1. Teacher	: Ca va. Je commence maintenant. "Tiens, bonjour Bashir". Tu es Iovan, Ali.
2. Student (Ali)	: "Tiens, bonjour Bashir".
3/4. Teacher	: Trés bien. Maintenant Bashir dit à Iovan: "Bonjour Iovan". Tu es Bashir.
5. Student 2	: "Bonjour, tiens bonjour Iovan".
6. Teacher	: Il ne dit pas "tiens", c'est Iovan qui dit "tiens bonjour Bashir". Maintenant Bashir dit simplement "bonjour"
7. Student 2	: "Bonjour"
8. Teacher	: Il s'appelle comment?
9. Student 3	: Iovan
10. Teacher	: (Gesture to student 2 to try again)
11. Student 2	: "Bonjour Iovan"
12/13. Teacher	: Tres bien. Alors, tu es Iovan, tu es Bashir, Allez-là
14. Student 4	: "Tiens, bonjour Bashir"
15. Teacher	: Bashir
16. Student 5	: "Bonjour, Iovan"
17. Teacher	: Tres bien.

ILLOCUTIONARY STRUCTURE OF PASSAGE B

1. *Framing* *Performative* *Modelling* *Nominating*
   Ca va? Je commence maintenant. "Tiens, bonjour Bashir". Tu es Iovan, Ali.
2. *Practicing*
   "Tiens, bonjour Bashir"
3. *Evaluating* 4. *Modelling* *Nominating*
   Trés bien Maintenant Bashir dit à Iovan, "bonjour Iovan". Tu es Bashir.
5. *Practicing*
   "Bonjour, tiens, bonjour Iovan"
6. *Correcting*
   Il ne dit pas 'tiens', c'est Iovan qui dit "tiens, bonjour Bashir". Maintenant Bashir dit simplement - bonjour ...
7. *Practicing*
   "bonjour"
8. *Correcting*
   Il s'appelle comment?
9. *Informing*
   Iovan
10. [NVC : address and gesture- *Nominating* 2]
11. *Practicing*
    "Bonjour Iovan"

12. *Evaluating* 13. *Nominating* *Directing*
Trés bien Alors tu es Iovan, tu es Bashir. Allez-là
14. *Practicing* 15. *Nominating* 16. *Practicing*
"Tiens bonjour Bashir" Bashir "Bonjour Iovan"
17. *Evaluating*
Trés bien

INTERACTIONAL STRUCTURE OF PASSAGE B

Participant \ Turn	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Teacher	S	A	S	S	A	S	A	S	A	S	A	S	S	A	S	A	S
Student 1	A	S	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
Student 2	H	H	H	A	S	A	S	H	H	A	S	H	H	H	H	H	H
Student 3	H	H	H	H	H	H	H	A	S	H	H	H	H	H	H	H	H
Student 4	H	H	H	H	H	H	H	H	H	H	H	H	A	S	H	H	H
Student 5	H	H	H	H	H	H	H	H	H	H	H	H	A	H	A	S	H
	O	R	C	O	R	O	R	O	R	O	R	C	O	R	O	R	C
	Ex.			Ex.		Ex.		Ex.		Ex.			Ex.		Ex.		
	Trans.			Transaction									Transaction				

O = Opening (A Speaker turn in which (a) participant(s) is addressed i.e. the duty to reply is imposed on him).
R = Reply
C = Closing (A Speaker turn performed by the same participant as the 'O', but in which no duty to reply is imposed).

How are we to interpret and contrast these two sets of data?[13] If the claims we have made earlier have any justification, our analyses would provide us with insights into the illocutionary repertoire and structure, the nature of the interaction and discourse, and the presuppositions and social roles of the participants.

For what it is worth, let us first look at a few statistics:

(i) *Types of Illocutionary Act occuring in*

	PASSAGE A			*PASSAGE B*	
Occurring only in A	(Requesting information	2	Occurring only in B	(Modelling	1
	(Requesting confirmation	1		Framing	1
	(Confirming	2		Directing	2
	Framing	1		Nominating	5

[13] We ask the reader to accept the fictions that it is possible to generalise on the basis of such a small corpus and in particular that the labels for illocutionary acts (e.g. "Directing") have been validly defined, whereas in reality that can only be done after far more analyses of this type have been carried out.

	Directing	1	Correcting	2
	Nominating	2	Practicing	6
	Correcting	1	Evaluating	3
	Practicing	3	Performative	1
	Evaluating	1	Informing	1
	Performative	1		22
	Informing	1		
	Total	18		
	(ii) *Distributions*			
performed by	Teacher:	12	Teacher:	15
performed by	Students:	6	Students:	7
	Types:	10	Types:	9

Total types A + B : 12

	Teacher Acts:		
Only in A:	(Framing: 1	Only in B	
	(Directing: 1	(Only in B)	(Modelling: 1
	(Confirming: 2		Framing: 1
	Requesting information: 1		Directing: 2
	Nominating: 2		Nominating: 5
	Correcting: 1		Correcting: 2
	Evaluating: 3		Evaluating: 3
	Performative: 1		Performative: 1
	Student Acts:		
	Practicing: 3		Practicing: 6
	Informing: 1		Informing: 1
	Requesting confirmation: 1		
	Requesting information: 1		

What does all this tell us? Firstly, that our intuition that these two passages were similar was a reasonable one: 8 types of act are common to both passages, out of a total of 12 types, accounting for 32 acts out of the 40 acts occurring in the two passages together.

Secondly, the observer is struck by the very clear preponderance of Teacher Acts in both passages: a ratio of almost exactly 2 : 1. This confirms what we already know about the proportion of teacher-talk in the classroom, but the familiarity of the observation should not blind us to the important implications in terms of discourse structure and social roles. This is strongly underlined by the very clear distinction between the *types* of acts performed by the teachers and the *types* of acts performed by the students: there is only *one* example of a 'common' act ('Requesting information' in Passage A). All other acts are exclusively part of the teacher's role or the students' role. The teachers

are the only participants who can Frame, Direct, Nominate, Correct, Evaluate, Confirm (A), Model (B), or Perform. We believe that 'role' is to be defined in terms of (i) *acts performed* by a participant (ii) the discourse rights to produce a particular set of acts. (cf. GREMMO, HOLEC, RILEY forthcoming).

What we have here, then, is a clear acceptance by all participants of the traditional roles of Teacher and Student. The event is teacher-centred in every possible sense: his role and status are clearly reflected in his discourse rights. The reader can easily check for himself just how deeply engrained our understanding of this behaviour is, by trying to imagine what would happen if one of the students performed a Teacher Act, such as Directing or Evaluating or even Framing. It would be perceived as a challenge to the Teacher (or as humour, perhaps).

The teacher is model, judge and organiser of the discourse. The teaching-learning process is seen as his to control, and it is something which occurs strictly between him and the students, never between the students themselves.

At the level of Illocutionary Structure (i.e. sequences of illocutionary acts) we can make the following generalisations: both the passages are characterised by patterns of acts which can be summarized as follows:

	A	B
1.	Teacher : Framing, Directing, Requesting Information, Nominating, Performative	Framing, Performing, Modelling, Nominating, Directing
2.	Student : Requesting confirmation/ information, Practicing, Informing	Practicing, Informing
3.	Teacher : Correcting, Evaluating, Confirming	Evaluating, Correcting

This is, in fact, very clear confirmation of the "Three-part exchange" described by Sinclair & Coulthard (1975). There is no need to labour the point that there is considerable congruence between the two analyses: in both cases the teacher presents material and then solicits a response, which he then judges satisfactory/unsatisfactory. If it is satisfactory he solicits a new response; if unsatisfactory, he corrects it and the student produces a new response which is judged in turn.

Let us now turn to the interpretation of our analyses of these same two passages in terms of interactional acts (cf p.p 8 - 9). Easily the most striking characteristic of both discourse networks (as we call these series of codings) is the teacher's *centrality*. This is a characteristic of his role (as seen by all

participants). He is the Paris of centralised France — wherever you want to go, you go via Paris. Whether he likes it or not, the teacher is continually being forced to reply because he is addressed by his students. This is a characteristic of *status* (as seen by his students). Getting them to address one another will be a pre-requisite, then, to a reduction of teacher-talk, which in turn will mean a change in the role and status of the teacher, since, in traditional classes such as this, students are discouraged from speaking amongst themselves.

In interactive terms, the teacher has the *right of address* (conferred on him by his status and role). That is, he — and he alone — chooses who is to speak next. It follows, logically enough, that the teacher will have alternative turns (clearly seen in the top line of each network) so that there is a superficial resemblance to dyadic interaction. The relative degree of *freedom of address* in a classroom is a function of social *directivity*: both teachers here may be said to be highly directive, since they allow no freedom at all.

Another crucial teacher-privilege is his right to organise the discourse through interactive *performatives*, i.e. acts which structure the discourse itself, usually explicitly. Centrality, Address and structuring privileges (realised by acts such as Framing, Directing, Nominating, Performing, Requesting information) all combine to give the Teacher a high degree of discursive *control*.

In A 3, the Teacher interrupts Mme. X.: now interruptions can be classified in discourse terms according to (i) whether they are in-or between—terms, exchanges etc., and (ii) whether the Addressee of the Interruptor was the previous turn's A, A or H. Here we have an in-turn interruption — Mme. X. is not allowed to finish what she was saying. This is perfectly acceptable in the classroom: it is part of the teacher's discursive privileges, a concomittant of his right to correct (a characteristic of role, again) but one which would be unacceptable in many other types of discourse. Indeed, the characteristic of *formality* can usefully be described by (inter alia) the types and frequencies of interruptions occurring in a given discourse (although this point is illustrated only once in our examples).

The fact that very little difference is to be discovered between these two passages should not detract from the point that a valid contrast, based on objectively observable behaviours has been made.

We would claim, then, that we have here a series of extremely useful formalisations: aspects of (i) Role (ii) Status (iii) Directivity, (iv) Formality have all been formalised in terms of interactional behaviour, and the discourse privileges of the participants. Moreover, the structure of the interaction into hierarchically-ordered units (act, exchange, transaction) is also clearly demonstrated. Since these descriptions are applicable to any face-to-face oral discourse, the add an interesting new weapon to the Contrastive Analyst's armoury.

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THE PERCEPTION AND IMITATION OF ASPIRATION BY POLISH SPEAKERS

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The departing point in this article is the comparison of the RP British English and standard Polish stops /p t k/ with reference to the feature of aspiration. Such a comparison reveals that the Polish language, in normal speech, has no aspiration which could be perceptually detected. There are dialectal, emphatic or hesitatory instances of aspiration (Rubach : 1974) but they are beyond the scope of interest of the present study. Spectrographic analysis, however, shows that some aspiration does exist, although it is very weak and short in duration. Jassem (1964 : 364) says that although the Polish stops are described as 'unaspirated' "a distinct aperiodic sequent has been found after the pulse in about 80% of the voiceless stops (...) The duration of the aperiodic segment ranges from 20 to 100 msec (...) It is probable that if the aperiodic segment following a pulse has a duration less than 50 msec, the stop consonant is not perceived as 'aspirated'".

In British English there are aspirated variants of the phonemes /p t k/. They occur after a pause, or syllable-initially before stressed vowels if not preceded by *s*, e.g. [tʰɪm], [tʰsop].

The stops under investigation in the present article are the Polish perceptually unaspirated [p t k] and their British English aspirated counterparts [pʰ tʰ kʰ], distributed initially in monosyllabic words.

The purpose of this paper is to suggest answers to the following three questions:

a) Do speakers of Polish perceive aspiration in the British aspirated allophones [pʰ tʰ kʰ];

b) Can speakers of Polish produce aspiration in [p^h t^h k^h] in a process of imitation;

c) Are Polish speakers more efficient in the perception or production of aspiration.

Accordingly, the project has been organized as follows:

EXPERIMENT I – PERCEPTION

— Test 1
— Test 2
— Test 3

EXPERIMENT II – IMITATION

— Test 1
— Test 2

The subjects in the experiments were monolingual fifteen-year-old grammar school students, all native speakers of Polish. The students had undergone general screening so as to eliminate individuals with noticeable hearing or speaking defects.

EXPERIMENT I – PERCEPTION

Experiment I consisted of three tests. The tests were identical and the hearers in all three tests were the same. Thus, the subjects listened three times to a list of 15 word pairs. With the exception of one instance (P. ['koks — — P. ['kous]) these were Polish/English and English/Polish pairs.

The voices recorded were native Polish speakers — two males and a female — all both trained phoneticians and teachers of English. We did not consider it necessary to introduce native English speakers to read the English words, the reason being that the phonetically untrained listeners might have interpreted the differences in the voices as differences in the quality of the sounds.

The following is the list of the pairs presented to the students for discrimination:

P. tan	['tan]	E. ton	['t^hɑn]
E. cop	['k^hɔp]	P. kop	['kɔp]
E. ten	['t^hen]	P. ten	['ten]
P. pop	['pɔp]	E. pop	['p^hɔp]
P. koks	['kɔks]	P. koks	['kɔks]
P. pyk	['pɨk]	E. pick	['p^hɪk]
E. pun	['p^hʌn]	P. pan	['pan]
E. Puck	['p^hʌk]	P. pak	['pak]

P. test	[ˈtest]	E. test	[ˈtʰest]
E. cock	[ˈkʰɔk]	P. kok	[ˈkɔk]
E. tip	[ˈtʰip]	P. typ	[ˈtip]
E. cox	[ˈkʰɔks]	P. koks	[ˈkɔks]
E. Tim	[ˈtʰim]	P. tym	[ˈtim]
P. kos	[ˈkɔs]	E. cos	[ˈkʰɔs]
P. pot	[ˈpot]	E. pot	[ˈpʰɔt]

The students were to determine whether the first elements in these pairs were identical or different and to mark their answers on the answer sheets.

RESULTS

The results of this experiment are given in Tables 1 (numbers), 2 (percentage) and 3 (mean/standard deviation):

Table 1. Number of pairs

	Correct	Incorrect	TOTAL
Test 1	272	103	375
Test 2	289	26	315
Test 3	238	77	315
Tests 1+2+3	799	206	1005

Due to the fact that four students were absent during the second and third trials, the numbers in Table 1 differ. Thus, there were: 25 hearers in Test 1, 21 hearers in Test 2 and 21 hearers in Test 3.

Table 2. Percentage

	Correct	Incorrect	TOTAL
Test 1	73%	27%	100%
Test 2	92%	8%	100%
Test 3	76%	24%	100%
Tests 1+2+3	80%	20%	100%

Table 3. Standard deviation

	Mean ($\bar{x}$)	$\sigma\,\bar{x}$
Test 1	73%	17%
Test 2	93%	9%
Test 3	73%	16%
Tests 1–2–3	80%	17%

The percentage of correct identifications is highest in Test 2, whereas in Tests 1 and 3 it is almost the same. Likewise, the standard deviation is lowest in Test 2, whereas in Tests 1 and 3 the values, again, are practically equivalent.

Table 4. Correct answers of a subject in Tests 1, 2 and 3

	x_1	x_2	x_3	TOTAL
	13	14	10	15
	7	14	11	15
	9	15	8	15
	9	15	9	15
	10	14	9	15
	6	15	11	15
	7	12	13	15
	11	14	9	15
	7	13	6	15
	13	14	11	15
	12	13	12	15
	12	13	14	15
	12	12	15	15
	10	10	14	15
	14	15	14	15
	14	15	9	15
	10	12	13	15
	12	15	12	15
	14	15	12	15
	12	14	15	15
	10	15	11	15
	14			15
	12			15
	11			15
	11			15
SUM	$x_1 = 272$	$x_2 = 289$	$x_3 = 238$	

The discrepancy between the results leads us to further determine whether the change of the voices reading the words influenced the results obtained, the assumption being that these changes were irrelevant to the results:

$\sigma_1^2 = \sigma_2^2 = \sigma_3^2$ (The sign σ stands for standard deviation)

The application of statistics contained several calculation procedures characterized below.

Firstly, the variations within the groups were computed according to the formula

$$\sigma^{12} = \frac{\sum x_{11}(x - \bar{x}_1)^2 + \sum (x_{21} - \bar{x}_2)^2 + \sum (x_{31} - \bar{x}_3)^2}{N - k}$$

where

x = number of correct answers of a subject (given in Table 4);
$\bar{x}_i$ = arithmetical mean;
N = number of subjects in the experiment;
k = number of tests.

$\bar{x}_1 = 10{,}88$
$\bar{x}_2 = 13{,}76$
$\bar{x}_3 = 11{,}30$
$N = 67$
$k = 3$

Thus, $\sigma^2 = 4{,}55$.

Secondly, to determine variations between the groups, the following formula was applied:

$$\sigma'^2 = \frac{\sum n_i (\bar{x}_i - \bar{x})^2}{k-1},$$

where

n = the number of subjects in particular tests.
$n_1 = 25$
$n_2 = 21$
$n_3 = 21$.

Accordingly, $\sigma'^2 = 53{,}11$. Since the ratio $F \frac{\sigma'^2}{\sigma^2} = \frac{53{,}11}{4{,}55} = 11{,}67$ is less than the critical value $F_{0{,}05} = 19{,}48$, then $F_{0{,}05} = 19{,}48 > F = 11{,}67$; our hypothesis that the changes of the voices reading the word samples did not influence the results has been confirmed. We can, therefore, analyse Tests 1, 2 and 3 jointly, concluding that the percentage of correct answers in these three tests is 80%.

EXPERIMENT II — IMITATION

Experiment II consisted of two identical tests given to the same group of 20 subjects. The students listened to 15 English monosyllables and were instructed to repeat each word after they had heard it. The time spacing allowed was eight seconds between the words. The list of words for imitation had been recorded by trained phoneticians, native speakers of Polish, one male and a female. The voices of the subjects were recorded and later auditorily analysed. Over 50% of the analysis was spectrographically controlled, especially doubtful cases. The technique used consisted in measuring the duration of aspiration in particular stops according to Jassem's 50 msec standard.

RESULTS

The results are presented in Tables 1 (numbers), 2 (percentage) and 3 (mean, standard deviation):

Table 5. Number of words

	Correct	Incorrete	TOTAL
Test 1	93	207	300
Test 2	115	185	300
Tests 1–2	208	392	600

Table 6. Percentage

	Correct	Incorrect	TOTAL
Test 1	31%	69%	100%
Test 2	38%	62%	100%
Tests 1–2	35%	65%	100%

Table 7. Standard deviation

	Mean ($\bar{x}$)	$\sigma\bar{x}$
Test 1	31%	31%
Test 2	38%	31%
Tests 1–2	35%	31%

Although the differences between the mean values in Tests 1 and 2 are not big, we have statistically calculated whether this incongruity is due to the voices of the different phoneticians in Tests 1 and 2.

Our hypothesis is that the discrepancy between the results was not caused by the change of the voices:

$$H_0 : \bar{D}=0.$$

To check this, we applied the student's test which investigates whether the differences between two correlated samples are essential:

$$t=\frac{\bar{d}}{{}^{s}d/\sqrt{n}},$$

where

$$d = x_1 - x_2;$$

$$\bar{d} = \frac{\sum d}{n};$$

$$s_d = \sqrt{\frac{n \sum d^2 - (\sum d)^2}{n\,(n-1)}};$$

x = number of correct answers of a subject (given in Table 8);
n = number of pairs under observation.
$n = 20$
Thus, $t = 1{,}804$.

Table 8. Correct answers of a subject in Tests 1 and 2

	x_1	x_2	$d = x_1 - x_2$	d^2
	4	15	−11	121
	3	2	1	1
	0	12	−12	144
	2	7	− 5	25
	0	5	− 5	25
	0	3	− 3	9
	2	6	− 4	16
	11	4	7	49
	10	14	− 4	16
	11	13	− 2	4
	11	15	− 4	16
	1	3	− 2	4
	0	1	− 1	1
	13	0	13	169
	10	12	− 2	4
	1	5	− 4	16
	1	2	− 1	1
	5	15	−10	100
	8	3	5	25
	0	3	− 3	9
SUM			−47	755

The critical value for the experiment at 19 (20 - 1) degrees of freedom and 0,05 significance level is:

$$t_{0,05} = 2{,}093 > t = 1{,}804$$

which confirms our hypothesis that the change of the readers did not effect the results, which, in turn, allows us to treat Tests 1 and 2 jointly: the percentage of correct imitations in Tests 1 and 2 is 35%.

SHORT DISCUSSION AND CONCLUSIONS

The sample material of this article is too limited to allow the author to arrive at definite conclusions. Further experiments employing a larger group of subjects under still more controlled conditions should be carried out. If this project had been designed and executed correctly, we can assume that:

a) Speakers of Polish can for the most part perceive aspiration (average 80%).
b) The ability of producing aspiration by immediate imitation is low (average 35%).
c) Polish speakers are more efficient in perceiving aspiration than in producing it (ratio 2 : 1).

Aspiration seems to be one of the few features of speech which is identified "(...) by reference to the acoustic properties of the stimulus (...)" (Ladefoged 1972 : 168) because, for the most part, identification is made "(...) by reference to the articulatory activity which produced the sounds (...)" and as a result of this "(...) acoustic differences cannot be readily perceived till the corresponding articulatory gestures have been learnt. It may be surprising that, in general, people cannot hear differences between sounds until after they have learnt to make these differences ..." (Ladefoged 1972 : 167 - 168).

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SOME ASPECTS OF THE SO-CALLED VERBAL DELETION IN ENGLISH AND POLISH

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The aim of the present paper is to show some aspects of the phenomenon which might tentatively be called verbal deletion; an attempt will be undertaken to demonstrate the relations obtaining among lexical items, semantic concepts and particular transformations in English and in Polish. The data, which are limited to a few structures and a few lexical items, will be used as a starting point for a discussion concerning the possible nature of semantic representation and the ways in which specific meanings result from the interaction of semantic elements.

First let us consider the following set of sentences:

I 1. He refused an offer.
2. He refused an invitation.
3. She refused a gift.
4. She refused a proposal.
5. He refused supper.
6. *She refused the cloud.
7. *She refused a table.

Obviously some of the sentences above are ungrammatical; their surface structures are identical and differ only with respect to the objects (e.g. *an offer* vs *a cloud* or *a table*). Sentences 6 and 7, although ungrammatical in this set, would be perfect if we inserted verbs into them:

6'. She refused *to accept* (or: to paint, to buy) a cloud.
7'. She refused to make (or: to buy) a table.[1]

[1] Sentence 6, although semantically odd, is grammatically possible. It seems justified to ignore this semantic oddity, since in the context:

He dreamt that *he refused to accept a cloud*.

the item *a cloud* acquires a new feature which is not its inherent property, namely the

We have noticed in set I that in all sentences except 6 and 7 (which are deviant) the verb *to accept* is understood, or rather a more general concept expressing somebody's will to take something which is being given to him is incorporated in the sentence. Thus we can paraphrase sentences in set I as follows:

II He refused TO ACCEPT an offer, a gift, an invitation, etc.

Deletion of this verb from the surface structure results in a grammatical sentence:

He refused to accept an offer = He refused an offer.

In other cases, however, deletion of verbs produces ungrammatical strings:

III 1. *He refused the lesson ≠ He refused to accept the lesson.
2. *He refused the radio ≠ He refused to accept the radio.
3. *He refused the song ≠ He refused to accept the song.

Sentences 1, 2 and 3 do not include the verb *to accept*, but other verbs which cannot be omitted if the sentence is to be grammatical:

He refused *to prepare* the lesson.
He refused *to accept* the radio.
He refused *to sing* the song.

In none of the above sentences can the underlined verb be deleted without the sentence becoming ungrammatical.

In order to understand why verbal deletion operates in some cases and fails in others which are seemingly very similar, it may prove helpful to analyse the objects which appear in grammatical sentences:

IV an offer
an invitation
a gift
a proposal

Since the main verb and the deleted verb are the same in all cases, it must be the nouns which are responsible for the deletion because of some inherent properties they have in common and which they share with both the main

feature: (something that can be taken as a present); in this way for most cases which seem semantically peculiar an appropriate context may be found in which they sound acceptable. Thus this type of selectional restriction is of no importance for the present discussion (cf. McCawley 1971, Lakoff 1971b). As is well known, the notion of grammaticality is far from being clear at that moment and reasonable criteria are nonexistent. Some authors (Lakoff 1971b) tend to take recourse to extralinguistic factors, others try to rely on the intuition of native speakers, which fails in many cases. It may seem justified, then, that in the present paper no consistent definition is given.

and the deleted verb. All the nouns enumerated in IV seem to denote the following concept:

something that can be given or offered by one person to another one and, consequently, something that can be accepted

This notion of being given with the purpose of getting it accepted is an inherent property of these nouns and one of the factors that define their semantic behaviour.[2]

In this way we have come to the point where it is convenient to assume that in the meaning of at least some nouns there is a verbal notion (in this particular case the notion of accepting) which is one of the factors making deletion possible. However, while a noun may be used with different verbs in different contexts, there is only one verb (or sometimes two) which is an inherent property of a given noun and as such is semantically relevant,[3] e.g.:

a book — something intended mainly to be read; les frequently also to be written;

a present — something given to somebody with the purpose of its being accepted, etc.

However, the presence of an item with the feature specified above would by no means be enough for the deletion to take place. If it applied to the following sentence:

1. He agreed to accept a present.

it would yield an ungrammatical sentence:

1'. *He agreed a present.

If we compare sentence 1' with a grammatical sentence:

2. He refused a present.

we can notice that different semantic relations obtain between these two pairs of lexical items:

to agree — a present

to refuse — a present

If we state the most important aspects of the verb *to refuse* in the following way:

REFUSE (the giver, the affected)

meaning: to express unwillingness to accept something

presupposition: something that can be given and thus should be accepted has been offered to somebody

[2] This concept may be optionally present in other nouns as most things in the world can be given and, consequently, accepted in some situations, but for these verbs it is an indispensable part of their semantic description.

[3] One may suggest, additionally, that most probably there are groups of nouns incorporating a verb common for all of them.

it becomes obvious that there are semantic connections of some type between *to refuse* and *a present* which are not to be observed in the pair *to agree* and *a present*.[4]

It seems that the possibility of deletion depends not only on the meaning of separate lexical items taken individually, but rather on the whole semantic structure which has been created by these items and within which they influence each other, e.g., the meaning of *to refuse* limits in a way the possible objects to very specific ones (or, in other words, it carries certain presuppositions which have to be fulfilled if the sentence is to be grammatical), while, on the other hand, the meanings of the objects limit the possible reactions to accepting or not accepting (excluding the possibility of judging or painting, for example, which are not present in the meanings of the items).

We may state tentatively that the verb which possesses the feature (+accept) may be deleted from the sentences in which it appears (set II) if it is incorporated in the meaning of the other items. Thus sentence 1 below:

1. He refused a gift.

means:

1'. He refused to accept a gift.

but not:

1''. He refused to buy a gift.

If we take our ungrammatical sentences into consideration:

*He refused the lesson.

we can see easily that these two concepts, namely refuse and lesson are not compatible with each other as far as their semantic representations are con-

[4] We have tried to find out whether it would not be possible to classify the other occurrence of the verb REFUSE (e.g., *He refused to sing* or *He refused to come*) under one common heading, roughly speaking of the following type:

REFUSE$_2$ and $_2$ not want TO DO something

of which *refuse*$_2$ would be only a specific case. However, such an approach presents us with numerous difficulties. First of all, it is too general, since we would have to assume that it applies in all cases where we have a noun, yielding:

a) *He refused a song ← He refused to sing a song
b) *He refused a letter ← He refused to write a letter

Apart from the fact that it would produce ungrammatical sentences, it would not cover some cases (e.g., He refused to come). Thus we have decided to maintain the distinction and discuss only REFUSE$_1$, which turns out to be a different verb. Sentence a) above would be grammatical only if *a song* were understood as a type of present, thus acquiring an extra feature.

cerned, that is to say presuppositions evoked by the verb are violated by other elements of the sentence. Thus it is necessary to retain the other verb in the surface structure:

He refused *to study* the lesson.

In some contexts, however, even these sentences can undergo the verb deletion transformation without becoming ungrammatical, e.g.:

Of all things he was given he refused only a table. It seems that this particular sentence needs certain presuppositions which are evoked by the first part of it:

something has been given to someone, the table was among the things which have been given.

In this way the item *table* acquires a new feature: *something* that can be given as a present and thus the whole sentence becomes grammatical.

Let us turn now to the analysis of Polish sentences of a similar type:

V 1. Odmówił ratunku.
2. Odmówił pomocy.
3. Odmówił jałmużny.
4. Odmówił gościny.
5. Odmówił podpisu.
6. Odmówił utrzymania.
7. Odmówił pieniędzy.
8. Odmówił zaszczytu.

It seems that incorporated in sentences from 1 to 6 is the verb *dać* / *to give*, sentence 7 is ambiguous and may mean either:

7' On odmówił wzięcia pieniędzy / He refused to take the money.

or:

7'' On odmówił dania pieniędzy / He refused to give the money.

Finally, sentence 8 includes the verb *przyjąć* / *to accept, to take*.

Bearing in mind the above-mentioned examples, it is possible to modify slightly the description of the verb *to refuse* / *odmówić* by adding an extra feature:

REFUSE / ODMÓWIĆ: not to want, not to agree *to accept* or *to give* something which is supposed either to be given in order to be taken, or to be given without any suggestion as to the necessity of accepting it.

The objects in set V mean respectively:
assistance, help, alms, hospitality, signature, maintenance, money, an honour and they all denote something that can be given if asked for, roughly speaking

in the following context:

Someone asks me: Help me = Give me help.
I refuse *to give* him help.

These objects, however, do not necessarily suggest accepting, that is why in the sentence:

On odmówił *przyjęcia* jałmużny.

The verb denoting acceptance cannot be omitted.

Thus the whole process may be tentatively presented as follows: the verb REFUSE evokes a certain semantic context which presupposes a situation in which something has been given or has been asked for; in this way the possible reactions are limited to *accepting* or *giving*, and the choice at this point depends on the other semantic concepts, e.g. podpis signature which is a thing primarily to be given to people.[5]

The phenomenon of deleting certain verbs can also be observed in those sentences in which the verbs: *to begin, to start, to continue, to finish* appear, still the relations holding among the elements of their underlying semantic structures are even more complex. Let us analyse a group of examples:

VI	1. He began a book.	vs 1′ He began a notebook.
	2. He began his tea.	vs 2′ He began the snap.
	3. He started a song.	vs 3′ He started a garden.
	4. He began the noise.	vs 4′ He began the silence.
	5. He began a play.	vs 5′ He began a window.
	6. He began supper.	vs 6′ He began a gift.

In the above sentences there are examples of the verb deletion transformation, but in each case the deleted verb is different.
The sentences in set VI mean respectively:

VII 1. He began *to read* a book.
2. He began *to drink* his tea.
3. He started *to sing* a song.
4. He began *to make* the noise.
5. He began *to read* a play.
6. He began *to eat* supper.

[5] In this particular case it is not possible to base the distinction between *accept* and *give* on the endings in the surface structure, because in both cases the endings are the same. Cf. Karolak (1975):

On wypowiada się za projektem.
On wypowiada się przeciwko projektowi.

In each case the object is different and so is the deleted verb. Thus the deletion transformation must in a way depend on the objects, but not exclusively, as will be demonstrated.

Consider the following examples:

VIII 1. He began the noise.
2. He started the noise.
3. He finished the noise.
4. *He began the soap.
*He began a gift.

In the first three sentences the verb which is "understood" is *to make* and its presence in the surface structure is not necessary for the understanding of the sentences. But sentences 4 require some specification as to their meaning, otherwise they are ungrammatical. Thus there must be a relation between *the noise* and *to begin* which does not exist between *the soap* and *to begin*.

The verbs of the begin-type suggest a situation in which an activity can last in time, so they can be used in such semantic structures which imply similar meaning: that is to say they require objects which possess this "time aspect". If we analyse the meaning of the item *the noise* we will notice that it allows for the possibility of lasting. In other words, in the meaning of the *noise* the verb *to be made* is present and only this verb can be deleted; otherwise ungrammatical sentences result or the deletion transformation is blocked:

He began the noise ≠ He began *to increase* the noise.

The verb *to increase* cannot be deleted because the meaning of *the noise is*: (something that is made, −lasting) rather than: (something that is increased). The statement that only verbs included in nouns can be deleted is proved by the fact that if we change the object the verb "understood" in the sentence is different:

He began the book ≠ He began to eat the book.
but: He began supper = He began to eat supper.

So one thing the verb deletion transformation depends upon is what we shall call the "time relation" between the main verb and the object NP. It means that in the semantic structures where verbs of the begin-type appear only these nouns can be used that possess the feature (+lasting), that is they include verbs in the passive sense, e.g.:

a book is something to be read — the activity of reading can last for a certain time;

The sentence *He began a book* means *He began to read a book* and the verb *to read* can be deleted as the "time relation" is preserved and the verb is included in the noun *the book*.

Let us consider now the following sentences:

IX 1. *He initiated the silence.
2. *He began a window.
3. *He began a notebook.
4. *He began a cloud.

Although at least some of the items (e.g. *the silence*) have the feature (—lasting), they include no verbs idiosyncratic to them, so deletion is impossible. We cannot possibly say:

*Silence is something to be made.

while we can say:

Noise is something to be made.

Also:

A notebook is something to be written/ read/...
A cloud is something to be ... made/ painted/

The sentence:

He began to paint the cloud.

is grammatical but deletion is impossible because the "semantic agreement" is not preserved — the meaning of the item *the cloud* does not contain any element which would correspond to the item *to paint*.

The following sentences seem to contradict the theory:

X 1. *He began a table.
2. The carpenter began a table.

In sentence 1 the time relation is preserved, still the sentence is ungrammatical, while sentence 2 is acceptable, although only one element is different: the subject NP. In this case we would need the presence of the "specifying relation" which must be preserved when the object is something to be made, but only by a specialist. Then the verb is contained not within the object but within the subject:

the carpenter — somebody who *makes* furniture the table — a piece of furniture which *is made* by a carpenter;

Sometimes the presence of the specifying relation is obligatory (sentences X), sometimes it is optional:

XI 1. He began supper = He began *to eat* supper
2. The cook began supper = The cook began *to cook/to eat* supper

Sentence 2 in set XI is ambiguous because supper is:

something to be eaten to be prepared

and *the cook* is somebody who can either prepare or eat supper. The same phenomenon can be observed in the sentences below:

XII 1. He began a book = He began *to read* a book.
2. The writer began a book = The writer began *to write to read* a book.

Polish examples seem to support the above analysis:

XIII 1. On zaczął list.
2. Zaczął zebranie.
3. Zaczął kolację.
4. Kucharz zaczął kolację o 8.
5. On kontynuował rozmowę, etc.

Similar relations obtain in other sentences where such verbs as:

zaczynać — begin
kontynuować — continue
skończyć — finish, stop
zacząć — start

are present.

In the above analysis we have tried to show that transformations (in particular, the verb deletion transformation) do not depend upon lexical items but are conditioned by different types of semantic relations present in semantic structure. Thus semantic representation does not consist of lexical items but rather is a system of semantic concepts and relations, while lexical items are inserted later on in the process of lexicalization. It has been demonstrated that transformations are sensitive to semantic relations so they operate on the semantic level not taking into account separate lexical items.[8]

Now we can try to modify slightly our previous analysis. It has been stated that verbal deletion is possible in the following semantic contexts:

I the verb REFUSE — if the deleted verb (*to give* or *to accept*) is in any way contained within the sentence,

II verbs of *the begin-type* — if the "time relation" and the "specifying relation" obtain and the semantic agreement is preserved, that is if the deleted verb is included either in the object or in the subject.

Since the sentence:

He refused a gift.

and

He refused to accept a gift.

[8] In this way the level of Chomsky's deep structure can be rejected in accordance with proposals of Lakoff, Postal, and McCawley.

mean the same and the only difference is the presence or absence of the verb *to accept* we may assume that they are both derived from the same underlying semantic structure and then the verb *to accept* is deleted as all the conditions hold.

It is possible, however, to present the relations between these two sentences in a different way. In semantic structure there are no lexical items, but semantic concepts and relations:

HE	REFUSED	A PRESENT
He said he did not want *to accept* sth		sth given to him *to be accepted*
a)		b)

This in the semantic structure of sentences 1 and 2 the notion of accepting is contained within a) and b). Later on part a) gets reduced to the item *to refuse* and part b) — to the item *a present* and we get a sentence:

He refused a present.

with no verb *to accept*. This verb is inserted by the verb insertion rule which takes out the verbs included in nouns and we get:

He refused to accept a present.

In order to account now for the semantic identity of sentences:

He refused a gift

and:

He refused to accept a gift.

we do not need the verb deletion transformation but rather the verb insertion rule which can also account for other facts, e.g. the sentence:

He began a book.

means:

He began to read a book.

and the semantic structure of these two sentences may be presented in the following way:

He began [something to be read – lasting]⇒ a book

Under the conditions specified above the concept of reading, incorporated in the noun may be taken out, inserted after the verb *begin* and then lexicalized (in the same way as *a book*).

This optional rule may also account for the fact that:

He refused a gift.

does not mean:

He refused to buy a gift.

In the semantic structure of the former sentence there is no notion of bying so there is no possibility of arriving at the structure with the verb *to buy* present.

The interpretation demonstrated above is by no means the only possible one, still it seems that introducing the verb insertion rule justifies, at least partly, the assumption that transformations operate on semantic concepts and not on lexical items (as, for instance, the verb deletion transformation does).

Additionally, we have also tried to show that in spite of surface differences between Polish and English, universal concepts of similar types may apply to both languages, even though they are expressed differently (by means of case endings prepositions, gerunds or real verbs etc.).[7]

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[7] I would like to express deep thanks and gratitude to Dr Tadeusz Zabrocki for his thorough and inspiring comments concerning my paper. Unfortunately, the limited length of this paper did not allow me to include them here. However, with the permission of the author, I would like to include them in a revised version of the present paper.

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THE TRANSFER OF COMMUNICATIVE COMPETENCE[1]

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Contrastive Analysis is concerned with the notions of 'transfer' and 'interference', and it is for this concern that it has borne the brunt of the discredit meted out in opposition to structure-based theories of language teaching by advocates of the movement for teaching communicative competence (CC). Note the word-play in some early writings from this movement. Newmark (1970) offered interesting and seminal suggestions on "How not to interfere with language learning", and Newmark and Reibel (1968 : 149) attacked CA directly as endorsing a teacher-centred rather than learner-centred approach to foreign-language learning, claiming that "The excessive preoccupation with the contribution of the teacher ... distracted the theorists from considering the role of the learner as anything but a generator of interference". It is not my purpose here to vindicate CA, but to determine whether and to what extent CA and teaching for communicative competence are in fact incompatible enterprises. My terms of reference are the classical Ladonian paradigm of CA endorsed by James (1971) and the discourse on the nature of Communicative Competence of Hymes (1971): their common date is to be taken as a fortuitous coincidence.

The CC movement seeks to deemphasise structure in favour of assigning priority to meaning. This is why it has blossomed in the intellectual climate of Generative Semantics, the contributions from ordinary language philosophers like Austin, Searle and Grice, and Halliday's Functionalism. Yet on the other hand the movement has relied for its endorsement on *structural* information of a particular kind: that pertaining to child language acquisi-

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[1] Paper read at the 14th International Conference on Polish-English Contrastive Linguistics, Boszkowo/Poznań, December 7—10 1977. I wish to express my indebtedness to The British Council for financially supporting my attendance at this conference.

tion. With some alacrity it has welcomed indications, albeit couched in structuralist terms (Dulay and Burt 1974; Ravem 1974), that second-language learning in a natural setting is not qualitatively, though it may be quantitatively, different from primary-language acquisition. This finding has been taken as a reliable indication that the student's natural language-learning capacity will ensure success, provided he has sufficient *meaningful* exposure to the target language "... if particular, whole instances of the language are modeled for him and if his own particular acts using the language are selectively reinforced" (Newmark and Reibel 1968 : 149). This proposal is vividly realised in the practices described by Allwright (1977) for managing the English learning of university-level students in a 'remedial' programme.

The study of child language has likewise now begun to turn its back on structural accounts of the process. Developing Brown's (1973) call for 'rich' interpretations of acquisition data, those which rely heavily upon situationally-cued meanings, Halliday (1975) has provided a Functionalist interpretation of the process of a child's (Nigel's) acquisition. Here are some representative statements from Halliday's work:

i) "... language development is much more than the acquisition of structure". (1975 : 3).
ii) "Early language development may be interpreted as the child's progressive mastery of functional potential". (1975 : 5).
iii) [The child] "... learns to mean long before he adopts the lexical mode for the realisation of meanings". (1975 : 9).

Here, then, is one *crucial* difference between L1 and L2 learning: infants, while mastering the formal devices of language, are simultaneously, and thereby, learning "how to mean". Adult learners of an L2, by contrast, enter the experience with a well-developed command of a functional system: their problem is not to learn *how to mean*, but to learn how to *convey* an already internalised system of meanings through a different or partially different structural *code*. Obviously this code will have to be learnt, and the differences between L1 and L2 codes "... are the chief source of difficulty in learning a second language" (Lado 1964 : 21).

That at least one category of FL learners need not be taught 'how to mean', since they can transfer their L1 modes of meaning to L2, has been conceded by Widdowson (1975b : 6): "... the language user himself knows how to create and understand discourse of different kinds expressed in his own language". The 'meanings' he refers to however are rather specialised ones, since he is writing of English for Special Purposes: "fields of enquiry in the physical and applied sciences, as they are generally understood, are defined by their communicative systems, which exist as a kind of cognitive deep structure independently of individual realisations in different languages"

(Widdowson 1975b : 6) and further "the communicative systems of different scientific disciplines are independent of any particular linguistic realisation" (1975b:7). These statements are reminiscent of those in classical CA which refer to *meaning* as the constant in comparison (the 'tertium comparationis'), the difference being that Widdowson refers to the supposed universality of specialised communicative systems, familiarity with which he regards as constituting knowledge of "how to create and understand discourse". Although his concern is with ESP one might perhaps make the same claim, even more legitimately, in respect of a generalist or generalised communicative competence. It should be borne in mind that Widdowson's claim about the universality of technical and scientific rhetoric is purely conjectural, awaiting empirical validation, but if it is indeed universal then there can be no talk of 'contrastive scientific rhetoric' just as there can be no such thing as 'contrastive semantics', for the simple reason that universality precludes contrastivity. The same must be said of the generalist analogue to technical rhetoric, communicative competence, the proper study of which is the province of Linguistic Pragmatics: as I understand the term, from my reading of Stalnaker (1972) and of Lakoff (1976) such things as Grice's (1967) conversational maxims and Lakoff's rules of politeness are very probably universal, so there will be no 'contrastive pragmatics' to occupy us in the forseeable future.

The relationship that Widdowson sees between specialist and generalist English is one of complementarity. He assumes that if students have a knowledge of the structural properties of generalist English, they will be able to combine this with their L1 knowledge of their scientific discipline to master the rhetoric of scientific English. In that case I take it that structural knowledge of the L2 must be a prerequisite for specialist communicative competence in the L2. If it is the case that generalist structural knowledge can serve specialist communicative competence we are faced with a number of questions. First, would it not be better for ESP students to have specialist structural facility from the start? Widdowson (1975b : 3) dismisses this on the grounds that "a knowledge of how English is used in scientific and technical communication can ...[not]... arise as a natural consequence from the learning of the sentence patterns and vocabulary which are manifested most frequently in samples of communication of this kind". The next question therefore concerns the *order of priorities* for teaching usage and use: should structural knowledge, a sine qua non for communication, be imparted simultaneously with instruction and opportunities for use, or be imparted prior to these opportunities for use? As Allwright (1977 : 3) puts the question:

> "Are we teaching *language* (for communication)? or
> Are we teaching *communication* (via language)?"

Yet, as we have already seen, the communication system *per se* "as a kind of cognitive deep structure" does not need to be taught, since it is already acquired knowledge in adult generalists and in scientists who know how to be scientists in the L1. What do need to be taught therefore are the structural or formal resources that realise communicative acts in the L2. Where some of these formal resources are isomorphic with those of the L1 they will not have to be taught either, since as CAists have long insisted, they can be transferred from the L1 to L2. The task at hand is to ascertain which formal resources can be allowed to be transferred, and the answer will be: only those which are both isomorphic and have the same semantic, rhetorical and pragmatic values as the L2 form with which they are matched. It seems that the communicative competence teaching movement is irrationally eclectic in recognising the learner's right to transfer his underlying systems of communication, but not their formal realisations, to the L2; even though the feasibility of their transfer *within* the L2, from generalist to specialist use, is endorsed by a writer like Widdowson.

The main reason why there is widespread disaffection toward the teaching of structure is that teachers' efforts have been negatively reinforced by their pupils: there is usually a great discrepancy between 'input' (what is taught) and 'intake' (what is learnt). Instead of learning the forms of the target language, learners exhibit an exasperating tendency to 'learn' deviant forms. Moreover, this deviance seems not to be always proportionate to the degree of mismatch between L1 and L2 forms (cf. Whitman and Jackson 1972). As if in despair, foreign-language teaching theorists have chosen to redraw their policies, and have accordingly decided that grammatical deviance can be tolerated provided learners are putting their message across. It has even been suggested that provided the L2 is being put to meaningful use, the incidence of error in fact drops, though I know of no supportive evidence for this speculation.

Now learners' error making has become big business and has engendered the subdiscipline of Error Analysis within Applied Linguistics. Widdowson (1975b) has interpreted the errors learners make as evidence for what Selinker (1969) called "strategies of communication", and identifies as their common denominator a desire on the learner's part to simplify: they provide "a partial account of basic simplifying procedures which lie at the heart of communicative competence" (Widdowson 1975b). This simplification, he contends, can involve either an increase or decrease in complexity, which is not so paradoxical in the light of the spectacular asymmetry that psycholinguists have revealed between linguistically defined complexity of derivation and psychological difficulty. The pedagogic implication that Widdowson sees is one that you have to be courageous to publish: rather than opting for "remedial teaching through which errors are eradicated" (as is standard practice),

Widdowson proposes "initial teaching through which errors are exploited That is to say, one might devise syllabuses which actually presented the erroneous forms which particular groups of learners were prone to produce, gradually bringing 'correct' standard forms into focus as the course progressed". This approach, he adds, "... would be in line with current approaches to the teaching of communicative competence".

Widdowson's proposal has been made before, both in covert and in overt forms. In covert form, Hymes (1971 : 287) suggests "... one should perhaps contrast a 'long' and a 'short' range view of competency, the short range view being interested primarily in understanding innate capacities as unfolded during the first years of life, and the long range view in understanding the continuing socialization and change of competence through life". Hymes (1971 : 287) has particularly in mind disadvantaged children, whether they be American Blacks or speakers of Bernstein's 'restricted code', those "... whose primary language or language variety is different from that of their school". It is, claims Hymes, part of a person's communicative competence to adapt his speech styles as changing social conditions and experience demand. Having communicative competence means having this adaptability in matters of language.

A difference between Widdowson and Hymes is that the former sees his proposal as emanating from "the findings of error analysis", while Hymes refers explicitly to the founder of Contrastive Analysis, Weinreich (1953) and his notion of *interference*, which Hymes defines as being concerned with "problems of the interpretation of manifestations of one system in terms of another". In fact, Widdowson's view is shared by Krzeszowski (1976 : 66) who illuminatingly categorises the five processes that Selinker (1972) considers contribute to the form of interlanguage. Three of these (L1 transfer, transfer of L1 training, and overgeneralisation from the target language) Krzeszowski (1976 : 61) calls 'horizontal processes' and the other two ('strategies of communication' and 'strategies of TL learning') he calls 'vertical processes' since "... they do not involve any transfer either from the source or from the target language" (1976 : 67). On the other hand Widdowson has claimed, as I have shown, that these procedures, at least those involving simplification "lie at the heart of communicative competence" and that this *is* transferable from L1 use.

The more overt support for Widdowson is my paper (James 1972) on applied CA where I likewise proposed that some status as institutionalised communicative codes should be given to the 'deviant' languages of foreign-language learners. I was encouraged in this by the American efforts to what was technically called 'dialect expansion' in the late '60s., which were associated with such linguists as Labov, Shuy, Baratz Fasold and Stewart. This movement sought to do two things: to recognise as legitimate and so assign

linguistic status to the nonstandard dialects of American Blacks, and to create pedagogic materials to facilitate social 'upward mobility' via the standardisation of these dialects. Politzer (1968 : 2) pointed out that any variant of a TL that is coloured by the native language of its learners can similarly be labelled a nonstandard dialect of that TL. The sentences of these learner-dialects are of two kinds, the idiosyncratic and the nonidiosyncratic, and it is the latter kind which CA has traditionally been concerned with: I call them nonidiosyncratic simply because they are common to populations of learners with a shared L1. They need not be obvious replicas of the L1, but their deviance will be systematically, if deviously, traceable to the L1. Since the learner's 'dialect' is in a sense a hybrid between L1 and TL I called it and *interlingua*, a term adopted from translation theory.

Any foreign-language learner has a propensity to construct for himself this interlingua, though it has been pedagogic practice to stifle this act of creativity. It is unrealistic to insist that learners should circumvent it to proceed directly to the native speaker's version of the TL. A further justification for tolerating it is that where the class is L1-homogeneous, the individual learners will converge in tacit agreement on the form of this interlingua, and being institutionalised (Corder 1975) it will become a vehicle for in-class communication. Accepting the interlingua, like accepting the child's or the immigrant's nonstandard language, obviates the necessity to halt the communication process in favour of the learning process, which has been the traditional practice.

For the majority of language learners, the interlingua need not be assigned a low status by being viewed as 'transitional'. Being a viable means of communication, it might, for the majority of learners, represent their terminal competence. It is adequate for those whose foreign-language study ends with school and for those who have specialist and sporadic functional communicative needs. The minority, those who will become professional foreign-language communicators and those whose motives are literary, aesthetic, linguistic or pedagogic, will need to proceed beyond the interlingua. Thus 'advanced' language study will aim at naturalising the interlingua and to this end the procedures advocated by Feigenbaum (1969) are appropriate: the student is required to manipulate certain model sentences through repetition, substitution, and even translation. Often in the past such audiolingualist drills were criticised for their artificiality, but it is this artificiality which makes them suited for dialect expansion by the advanced learner, since they involve him in conscious comparison of differences between his interlingua and target competence. So this drilling involves not the mechanical conditioning of verbal responses but makes use of the learner's *cognitive* capacities. As Hymes says, such adaptability lies at the heart of communicative competence.

I have delayed my definition of communicative competence. Of the many

available definitions I shall concentrate on those of Dittmar, of Widdowson, and of Corder. Dittmar (1976 : 163) sees as central to communicative competence the language user's realisation of two facts:

a) that two or more speech acts can be carried by the same linguistic pattern, and
b) that two or more linguistic patterns can convey the same speech act.

Developing CC involves then an increasing *versatility*. For Widdowson (1975b) *simplification* is the key, so he talks of "... basic simplifying procedures which lie at the heart of communicative competence". For him they involve "... the process whereby a language user adjusts his language behaviour in the interests of communicative effectiveness". Moreover, they are exhibited by native speakers and are not "restricted to people engaged in the learning of a second language system". Corder (1975) places the emphases differently: rather than viewing interlanguage in terms of simplification or reduction, he prefers to study the processes of *elaboration* demonstrated by learners of a second language. It will be obvious that the naturalisation of the interlingua, as I have presented it, is an aspect of Corder's "elaboration" as well as of Hymes' 'adaptability'.

I will concede that many of the learner's simplification strategies are universal. Váradi (1973) has discussed these under the title "Strategies in Target-Language learner communication Message Adjustment". He recognised three strategies: message abandonment (full or partial); formal replacement; and message adjustment. Results of applying the strategy for the communication of the 'balloon' were: 'air ball' ,'special toy for children', 'light bowls (balls) to fly', 'filled with gas'. I am sure that there are syntactic counterparts to these lexical ones. I am also sure that, apart from the universal strategies, there will be those that rely heavily on the L1 of the learners: this is where Contrastive Analysis comes back into the picture.

In her Bangor research project, de Echano (1977) set out to investigate the strategies employed by 'authors' of simplified Readers[2] in making an original text more accessible to foreign learners of English. The procedures recognised by Váradi were in evidence. In addition, de Echano submitted syntactically difficult English sentences to two populations of informants, one English native-speakers, the other Spanish teachers of English, with instructions to simplify each sentence, if possible, so as to make it easier for foreigners to understand. The informants were being invited to indulge in 'foreigner talk' (Ferguson 1975) of a rather sophisticated type in the written mode. She selected the test sentences on the basis of high English-Spanish contrastivity, as suggested in Stockwell et. al. (1965). Significantly, the Spanish informants tended to suggest simplified versions which were syntactically

[2] Longman's Bridge Series and Simplified Readers.

convergent toward the nearest Spanish pattern. She concluded that Readers, to be truly effective and significantly simplified, should be composed with the native language of the target reader population in mind. The main inference I wish to draw from de Echano's work is that, although, as Widdowson claims, the ability to simplify language is shared by foreign learners and teachers and native speakers, some of the directions of that simplification are determined by the L1. The second point, following from the first, is that the paraphrase relations recognised by a L1-homogenous group of foreign learners will make communication more possible than when the group does not have a common L1. I feel that Allwright's experiment in Essex would have yielded a functional interlingua even more rapidly if his learners had all been L1 Spanish speakers.

It might be objected that I have overemphasised the structural aspect of communicative competence. As Hymes (1971 : 281) says "There are several sectors of communicative competence, of which the grammatical is just one". My apology might be either that I am concerned with the acquisition rather than the possession of C.C., or alternatively that it is time to reinstate the grammatical dimension, which is in danger of being lost sight of. Instead of apologies though, I prefer to consider the *four* 'sectors' of C.C. that Hymes identifies, namely:

1) "Whether (and to what degree) something is formally possible". (1971 : : 281) This is the grammaticality sector and it is best approached through the linguistic study of error gravities, as in James (1974) and James (1977).
2) "Whether (and to what degree) something is feasible". (1971 : 281) This is the acceptability sector and concerns 'performance' factors such as memory and cognitive factors. It has been studied by Cook (1977).
3) "Whether (and to what degree) something is appropriate". (1971 : 281) This is defined in relation to contextual features or how sentences match situations.
4) "Whether (and to what degree) something is in fact done". (1971 : 281) This relates to probability of occurrence. An example is F.R. Palmer's (1965 : : 63) contentious claim that *will/shall* are not the commonest forms for future reference in English. As Hymes (1971 : 282) says: "A linguistic illustration: a sentence may be grammatical, awkward, tactful and rare". And so may an interlingual sentence from a second-language learner. The Polish learner of German, for example, might be allowed or even encouraged to use the alternative German way (a) of asking a question that is structurally close to his L1 (Polish) way rather than the 'more natural' way (b):

Polish (L1)	*German (L2)*	
Czy pan go zna?	Ob Sie ihn kennen?	a)
	Kennen Sie ihn?	b)

His communicative competence at this stage will be deficient in that the (a) version may be too [-casual] to be appropriate and may be relatively rare. But basing the interlingua or 'reduced code' on a contrastive study will ensure that his sentence is grammatical and, for him perhaps even more than for a native speaker of German, feasible. It will be during the naturalisation of the interlingua that attention will be paid to appropriacy and to relative frequency.

As I said at the outset, it is not my vocation to vindicate Contrastive Analysis. But I hope to have shown that the welcome shift of attention to the communicative ambitions of language learnes is not a completely new page in history and that structural considerations, while they should not preoccupy us, should, in their *contrastive* aspect, be continually borne in mind.

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EQUIVALENCE IN PHONOLOGY: THE CASE OF FINNISH STOPS VS. ENGLISH STOPS

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In this paper[1] some methodological issues of contrastive phonology are discussed, mainly in connection with the problem of stating equivalence between phonemes. More specifically, an argument is made both for a rather concrete (or natural) phonology and for data-based, experimental phonetics as indispensable components of the contrastive analysis of sound systems, especially for pedagogical applications (which were the original *raison d'etre* of contrastive studies). To illustrate the general points discussed reference is made to the contrastive analysis of the stop systems of Finnish (as the source language) and English (as the target language), the emphasis being on the treatment of the /voiceless/-/voiced/ distinction. The terms and concepts used are mainly those of classical structuralist theory, used because of their practicality in stating surface contrasts, not as a token of commitment to that theory.

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As an introduction, a brief account of the stop system of Finnish might be in order for those readers who are not familiar with the language. For the majority of speakers of Finnish the stop system consists of four phonemes, viz. /ptdk/.[2] Among these /d/ has a marginal status:[3] in native vocabulary

[1] This is a slightly revised version of the paper presented at the 14th international conference of contrastive linguistics at Boszkowo, December 7 - 10.1977. I wish to thank the participants of the conference as well as Fred Karlsson, Jaakko Lehtonen and Kalevi Wiik for valuable comments and criticism.

[2] For an account of the segmental phonemes of Finnish see Karlsson 1969.

[3] Historically, /d/ (realised as a stop) entered the language as a result of a spelling pronunciation, due to the early scribes' practice of using the corresponding letter for writing down the then existing dental spirant. On the whole, the many complexities involved here are another indication of the artificiality of such monolithic notions as "*the* sound system of Finnish" (cf. the treatment of *b* and *g* below and in Suomi 1978).

and in fully integrated (older) loanwords it has a limited distribution (occurring only in certain word medial positions and even there, in contradistinction to the other stops, only /single/), it does not occur at all in some dialects, and in some further dialects it is realized as a flap rather than a stop. Neither is it, in a generative description, included among the Finnish lexical consonant segments, since its surface representations can be regarded as the product of easily statable morphophonological rules (cf. Karlsson 1971 : 32). Yet, as /t/ and /d/ are distinctive in Standard Finnish (e.g. *katon* gen. sg. of *katto* 'roof' vs. *kadon* gen. sg. of *kato* 'dearth') it is not *a priori* impossible, even in the light of the limited distribution of the latter, that the distinction would be essentially one of voicing, in which case the lack of /b/ and /g/ would be interpreted as an instance of two paradigmatic gaps. The *phonetic* differences between Finnish /t/ and /d/, however, do not seem to favour such an interpretation. The two stops (in the kind of educated speech where also /d/ is realized as a stop) differ from each other in the following ways: /d/ has a more retracted (or retroflex) place of production (Sovijärvi 1963 : 47; Wiik 1965 : 24) resulting acoustically to a higher F2 locus, and it has a shorter duration (Wiik 1965 : 24; Lehtonen 1970 : 71). As regards voicing, and this is the crucial point, /d/ is usually fully voiced between vowels and varies freely between voiced and voiceless when next to /h/ (see e.g. Lehtonen 1970 : 52ff.), /t/ being (when/single/) in voiced environments either voiceless or voiced (Hakulinen 1968 : 20). Thus, with regard to voicing, there is a possibility of complete overlapping in word pairs of the type *katon/kadon*. This state of affairs would seem to suggest that in these instances listeners have to rely on the other cues signalling the distinction, i.e., the acoustical consequences of the difference in the place of production as well as duration. It can be argued that the frequent total voicing of /d/ is a secondary, concomitant result of favourable aerodynamic conditions prevailing across the glottis due to the short duration of the occlusion and the influence of the adjacent segments (of which at least the following one is always a vowel, i.e. a naturally voiced sound). A /voice/ correlation, moreover, would presuppose context-independent control of voicing in stops: as the above discussion indicates this does not seem to exist (cf. also Hakulinen 1968 : 20 - 21). Thus phonetic considerations, too, suggest the rejection of the hypothesis of a /voice/ distinction. As for Finnish /ptk/, they are seldom aspirated but often, especially medially when occurring /single/ between naturally voiced sounds (i.e. vowels and sonorants), partly and occasionally even fully voiced (not surprisingly, voicing having no distinctive function in the Finnish stop system). In fact there seem to be strong grounds for regarding the Finnish stops as being produced in an essentially "neutral" mode with regard to voicing: the voicelessness or voicedness of these sounds seems to be an automatic response of the vocal apparatus to the context-dependent prevailing aerodynamic

conditions, a single glottal configuration (one appropriate for speaking) being invariably employed for segmental purposes (for details see Suomi 1976 : : 73 - 75). [4]

It seems reasonable, then, to accept the view (expressed e.g. by Karlsson 1969 : 358) that /d/ is isolated and that there is thus no stop correlation in Finnish. This accepted, it follows that there is basically one series of stops in the language, all /unmarked/ (in the sense of Chomsky-Halle 1968) for voice. From the point of view of the system it is clear that it is /d/ that is "extra" (this view is also diachronically supported, cf. footnote 3) rather than /b/ and /g/ being paradigmatic gaps. How the classificatory feature distinguishing /t/ and /d/ should be labelled is a question of secondary importance; it is likely that the distinction is identified by listeners on the basis of all the concomitant phonetic differences.

The picture of the stop system of Finnish is, however, made more complex by the ever-growing adoption of new loanwords to the language, particularly from English. The new loanwords usually enter the language through the printed word, and consequently there are recent loanwords featuring the letters *b* and *g* such as *bussi* 'bus' and *bingo* 'bingo' as against *pussi* 'bag' and *pinko* 'swot' of the native stock. However, for the majority of Finns such word pairs are simply homophones as indicated, among other things, by their frequent misspellings. [5] Thus, for the majority of speakers of Finnish the pronunciations of words like *pussi* and *bussi* are non-distinct. There is, admittedly, a group of educated speakers who, under the influence of the foreign languages they have learnt, do maintain this distiction also in speaking Finnish. Yet there are indications that even among this educated group the distinction is far from being fully integrated and stable; the selection between the system /ptdk/ and the evolving system /pbtdkg/ is for most members of this group connected with the sociolinguistic phenomenon of register of sociolect, i.e. a matter of choice between informal and formal modes of speech communication. All this indicates that the Finnish stop system is presently in a period of restructuring, [6] and in the current state of transition caution must be observed e.g., in the

[4] It is here assumed, in accordance with the so-called aerodynamic-myoelastic theory of phonation, that two conditions must be met for voicing to occur, namely that the vocal cords be appropriately positioned and a sufficient transglottal flow of air be provided (for details see e.g. van den Berg 1968).

[5] It is to be noted that with regard to native vocabulary the Finnish ortography, with some minor predictable exceptions, is phonemic, i.e. there is a two-ways one-to-one correspondence between graphemes and segmental phonemes. The adoption of new loanwords of the type discussed of course violates this principle.

[6] I have discussed the problem of *b* and *g* in Finnish and the other related issues touched upon here in more detail in Suomi 1978.

selection of informants in contrastive analyses. If an elegant and simple description is necessarily insisted upon, however, it can, for most practical purposes, be assumed that the Finnish language has a stop system of /ptdk/, the distinction /t/-/d/ being based on phonetic differences only partially similar to those usually (e.g. in English or Polish) accompanying a fully integrated /voiceless/-/voiced/ one. Alternatively, and this seems a better solution, appropriate measures should be resorted to to assess, for each group of Finnish informants, whether and to what extent they are in command of the more complex system /pbtdkg/.

1

In contrastive analysis equivalent entities of two or more languages are compared, often for the purpose of predicting and/or explaining sources of interference. According to Lehtonen (1977 : 33) the following criteria have been used in various works to state the equivalence of phonemes in the languages compared:

(1) cogency of similar letters in spelling;
(2) similarity of phonetic descriptions and of conventions of transcription;
(3) use of phonological criteria; and
(4) perceptual similarity.

Let us examine the kind of results obtainable by the respective application of each of the criteria mentioned to the contrastive analysis of the stop systems of Finnish and English. The use of similar letters in spelling could conceivably, under a pretence to pedagogical simplicity, be taken as a point of departure in the case of Finnish being the source language, because of its almost perfect two-way one-to-one correspondence between graphemes and segmental phonemes (cf. footnote 5). However, the possible pros are far overruled by the cons inevitably resulting from the adoption of such an approach to the problem, even if rigorously applied. To be convinced, consider the following "transfer rules" necessary (although probably not even sufficient) to convert the phonological information deducible from the letter *g* in Finnish to that deducible from its counterpart in English: [7]

The letter *g* "is pronounced in English in two different ways:
(a) before *a*, *o* and *u* it is pronounced normally; "(sic!) "examples: *gang*, *goat*...;
(b) when *e*, *i* or *y* follows it is usually pronounced like the English *j*: this sound, which a Finn has to learn by practice, could perhaps best be represented by the transcript dž. The word *ginger* would have to be transcribed as džindžər, the word *German* similarly as džərmən. However, there are numerous exceptions to this rule. Although *gem* and

[7] The letter *g* occurs in Finnish (apart from loanwords) also in the spelling *-ng-* for /ŋŋ/, this being a major exception to the one-to-one principle mentioned in footnote 5. However, the spelling does not violate the two-way correspondence as the relation is reco verable in both directions.

gelatin are pronounced džem and dželəltin, the words *gelding* and *get* are pronounced gelding and get. When the letter *i* follows *g* the latter is pronounced *g* in almost as many words as it is pronounced dž: consequently the word *giant* is pronounced džaiənt, but *giggle* as gigll; *gin* is pronounced as džin but *gingham* as gingəm; *giraffe* is pronounced as džiraf', whereas *girl* as gərl. When followed by *y*, *g* is almost invariably pronounced as dž: the only exception to this rule is the word *gynecology* which is usually pronounced gainəkol'ədzi; also in this word, however, the first *g* is sometimes pronounced as dž, consequently: džainəkol'ədzi (sometimes also: džinəkol'ədzi). It is also to be noted that *g* is not at all pronounced if followed by the letter *n* either word initially or medially, cf. the consonant cluster gn below." (Alanne 1968) [8]

I have ventured to strain the reader's patience on the grounds that a normal user of the dictionary is clearly expected to read such instructions and, moreover, to remember what he has read. Thus, especially with English as the target language, the learner would have to memorize myriads of *ad hoc* rules in exchange for not having to become explicitly aware of the non-interchangeability of the notions "phoneme" and "letter", little practical difference as they may seem to make in his native tongue. In coming across such "instructions" one is forced to ask whether it would not, after all, be more economical to give the spelling *and* phonological structure (i.e., "the pronunciation") as the two distinct items to be learned for each English word (which, in fact, is the usual practice in textbooks of English for Finnish learners). [9]

It remains an open question how much the use of similar letters in the two languages interferes with the correct learning of the English stops by speakers of Finnish; one would think that the influence could be great only at the very initial stages of learning. We can conclude, then, that the application of the first criterion does not even produce viable practical solutions, not to mention its theoretical inattractiveness.

2

The second criterion, similarity of phonetic transcriptions and conventions of transcription, can, if inadvertently applied, lead to much more harmful misinterpretations as, due to the higher degree of sophistication involved, the

[8] Translation mine, KS.

[9] Thus, despite the fact that, for practical purposes, letters and phonemes can often be regarded mutually interchangeable entities in teaching various aspects of Finnish to native speakers, the concept of the phoneme must, implicitly or explicitly, form the basis of the description of the sound structure of the target language in foreign language teaching. Usually, of course, this is done implicitly, e.g. "*poika* in Finnish corresponds to *boy*, pronounced as /boi/, in English." This type of description can also cope with allophonic variation, e.g. by statements like" /b/, /d/ and /g/ in English, when word initial or final, are less voiced than in the word medial position." It is difficult to imagine how similar statements could profitably be incorporated into a comparison of spelling systems.

flaws are more difficult to detect. Among the shortcomings of traditional phonetic transcription (such as the phonetic categories of the IPA) Lehtonen (1977 : 34) mentions the dependence on categories predetermined by traditional classification, ambiguity in the evaluation of the phonetic characteristics (because the phonetic description is based on subjective, non-empirical impressions), and, thirdly, attention to vague and immaterial physical characteristics of the speech sounds. A case in point is the treatment of Finnish and English plosives by Moisio and Valento (1976). In discussing the physical differences between the stops of the two languages the authors state:

"It would seem that the Finnish plosives /ptk/ are fully acceptable as the corresponding English phonemes and /t/ can be used as a substitute for the English /t/ in spite of a slight difference in the place of articulation. Thus learning to hear and produce English /ptdk/ should not be too difficult for Finns. There are also two new plosives that must be learnt. They are /b/ and /g/. These may occur as sounds in loan-words in Finnish (e.g. *bussi* 'bus', *laboratorio* 'laboratory', *gallona* 'gallon', *agentti* 'agent', *Haag* 'the Hague'). Therefore one might assume that learning the English plosives is not difficult for a Finn. However, the picture is obscured by the fact that word-initially and at the beginning of a stressed syllable the fortis plosives /ptk/ are aspirated in English, whereas in Finnish they are unaspirated. This difference should not cause any hearing problem, because Finns probably identify English /ptk/ correctly whether they are aspirated or not. In production there may arise a difficulty, because Finns tend to pronounce their fortis plosives too laxly and without aspiration so that native speakers of English may hear them as /bdg/." (Moisio and Valento 1976: 15 - 16)

As regards the claim that /b/ and /g/ "may occur as sounds" (=phonemes?) in Finnish the authors state earlier (1976 : 14) that they interpret the Finnish stop system to consist of /ptdk/: clearly their position fluctuates on this point. However, on the basis of the discussion in section (0) above and the empirical data obtained by the authors themselves (cf. below) it can be inferred that, at least for the group of Finnish speakers used as their informants, the native stop system consists of /ptdk/ (this position is again subsequently taken by Moisio and Valento (1976 : 22 - 23) when they review the learning problems implied by their contrastive analysis).

Although discussing the physical characteristics of the stops the authors give no physical evidence which would justify the postulated correspondence or substitution relationship between Finnish /ptk/ and English /ptk/: on the contrary, they state (quite correctly) that there is a difference with regard to aspiration. The existence of a physical correspondence is further made questionable by the fact (mentioned by the authors) that Finnish /ptk/ are often identified as /bdg/ by native speakers of English. The results of their own listening tests are also far from indicating that speakers of Finnish identify English /ptk/ correctly (which would be the case if a physical correspondence

existed): English (E) /p/ is identified by Finns as /p/ in 28 per cent of the cases and as /b/ in 27 per cent, E /t/ is identified as /t/ in 43 per cent of the cases vs. 32 per cent as /d/, and E /k/ as /k/ in 58 per cent as against 14 per cent as /g/ (p. 33).

The use of the terms "forits" and "lax" (as *physical* attributes of stop sounds, i.e. as attributes meant to refer to some objectively observable phonetic feature of these sounds (and different, for example, from the objectively definable dimension of voicing), remains an instance of "attention to vague and immaterial physical characteristic of speech sounds" (Lehtonen 1977 : 34) until their referents in the physical world are indicated. To my knowledge this has not been done.[10] As regards the use of e.g. the terms "fortis" and "lenis" in a phonological, classificatory function, for example to refer to (or used as a label for) the English sets of stops (ptk) and (bdg),[11] they are, from a strictly formal point of view, as good as any provided that the two sets are systematically kept apart.

Thus, Moisio and Valento fail to give a phonetically motivated justification for the assumed correspondence between Fininsh /ptk/ and English (ptk) (in favour of English (bdg)), and the situation is indeed "obscure" in view of the obvious discrepancy between data and predictions.

What, then, could be the basis of Moisio and Valento's choice of correspondence? It seems that the second criterion mentioned by Lehtonen, viz. similarity of phonetic transcriptions and, particularly, conventions of transcription can give the answer as both the (voiceless) set of English stops and the basic triplet of Finnish stops are traditionally transcribed as /ptk/ (for historical reasons that need not concern us here). Given such a situation, it is tempting to transcend the similarity beyond the merely graphic one, i.e. to regard the stops also phonetically equivalent. (That they are not phonologically equivalent will be shown in more detail in section (3) below). Thus, looking up the transcripts *ptk* in an IPA chart, for example, one finds that

[10] The same terms *fortis-lenis* are, admittedly, used e.g. by Ladefoged (1971), but with reference to differences in the degree of respiratory activity resulting to variations of subglottal air pressure significant on the segmental level, as is the case e.g. in Luganda (see Ladefoged (1971: 24 - 29; 95ff.) for data and a detailed discussion). In English no such differences are associated with the /ptk/-/bdg/ distinction (see Suomi (1976: 55 - 56) and the references therein).

[11] As was done deliberately by the present writer in Suomi (1976) in order to reserve the terms *voiced* and *voiceless* for the phonetic dimension (i.e. presence vs. absence of glottal pulsing). It was explicitly stated that no material content was implied by the terms *fortis* and *lenis* (1976: 3 - 4).

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they are defined, among other things, by the feature *voiceless* (while *bdg* are characterized by the feature *voiced*). In principle the IPA transcription system is a phonetic one, i.e., it enables a classification of speech sounds independently of their phonological function in the languages described. In practice, however, even the very construction of the system has been greatly influenced by the phonological structure of a number of languages, notably English. As a result, for English, the classificatory and narrow (phonetic) transciptions usually coincide, i.e. the same transcripts are used in both, and usually without doing injustice to either. For Finnish, on the contrary, the choice between the transcripts *ptk* and *bdg* is more arbitrary in a phonological (classificatory) transcription as the /voiceless/-/voiced/ distinction does not exist in Finnish. Now, in an attempt to capture the essential *phonetic* characteristics of Finnish stops one is in principle free to choose the transcripts that best seem to describe the essential features of these sounds, and in practice *ptk* have traditionally been chosen. However, it is erroneous to assume, after the choice has been made, that the same transcripts now stand for phonetically non-distinct sounds in the two languages. Or, to adapt Lehtonen's (1977 : 34) expression, one must avoid "dependence on categories predetermined by traditional classification". Yet it seems that this is exactly the pitfall Moisio and Valento have tumbled over and when, contrary to their assuption, the stops of the two languages exhibit clear phonetic differences they are forced to state that "in production there may arise a difficulty, because *Finns tend to pronounce their fortis plosives too laxly and without aspiration...*" (1976 : 16, italics mine, KS). That the pronunciation of Finnish follows its own regularities and is different from English pronunciation should not be regarded as a tendency to deviate from a norm (dictated here, it seems, by the IPA classification). The crucial (albeit unintentional) point of the above quotation, however, is that it lends further support to the present writer's contention that the distinction *fortis/lenis* (or *voiceless/voiced*) is completely vacuous in the *systematic* description of (the) Finnish (stops), both phonologically and phonetically, i.e., it cannot be used as a basis for establishing natural classes of sounds beyond the primary distinction between obstruents and sonorants (voicing, as a phonetic parameter, being primarily dependent on physiological/aerodynamic and coarticulatory effects (cf. section (0) above and Suomi 1976 : 73 - 74).

As a corollary of the postulated correspondence between Finnish /ptk/ and English /ptk/ in their contrastive analysis Moisio and Valento are forced to predict (1976 : 22 - 23) that, while English /ptk/ cause no great problems, it is the English stops /b/ and /g/ that are difficult for Finns to produce and to identify. Below is a graphic representation of their argumentation (as a slightly modified but factually true reconstruction of the relevant parts of their chart (1976 : 19) of the Finnish system complemented by a parallel description of

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part of the English system, also according to Moisio and Valento's own interpretation):

Finnish:		English:	
/p/	/k/	/p/	/k/
[b]	[g]	/b/	/g/

On the basis of such a chart it is indeed very tempting to conclude that Finnish /ptk/ correspond to English /ptk/. The descriptions of the two languages do not, however, observe the basic principles of contrastive analysis, i.e. they are not of an identical status: for English, only phonological information is given whereas the description of Finnish includes also allophonic information. I will return to the use of such graphic representations below; to conclude the present section it is sufficient to note that again the predictions of Moisio and Valento are invalidated by their own results: the percentage of correct identifications of English /bdg/ by Finnish subjects is considerably *higher* than that of English /ptk/, viz. 56, 76 and 74 per cent for /bdg/, respectively, against 27, 43 and 58 per cent for /ptk/, respectively (Moisio and Valento 1976 : 33).

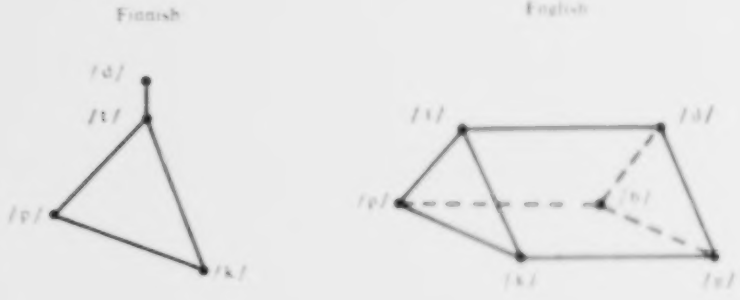
3

The third principle for stating equivalence between phonemes of different languages mentioned by Lehtonen is the use of phonological arguments. I will attempt to show in this section that substantively, i.e. phonetically motivated phonological considerations,[12] although unable to answer the question of equivalence positively, can at least help us to avoid the kind of false conclusions exemplified in the preceding section. The atomistic concept of the phoneme as an indivisible, abstract entity existing only through its distinctive oppositions to the other phonemes of the language, the basic tenet of taxonomic phonology, viz. the idea that each language is a system of its own right, describable only by the language-specific network of oppositions, the denial of a universal basis for the description of speech sounds and their interrelationships, all these are, of course, irreconcilable with the demand in contrastive analysis for parallel descriptions of the languages contrasted. Consequently, the idea of universal categories, of a "common platform", is inextricably inherent in contrastive analysis if it is to make sense. In accordance with this conviction, then, we must assume the existence of universal features that somehow reflect

[12] Thus extremely abstract, substance-independent theories of phonology like glossematic (see e.g. Hjelmslev 1943) are not considered here very useful for the purposes of contrastive analysis, for reasons that should become clear on the basis of the subsequent discussion.

our categorization of the phonic substance of speech. For the features to be universal they must be based on (or derived from) the general (or, more likely, speech-specific) cognitive capabilities of man as a speaking animal, using his vocal apparatus to produce the speech sounds. The more abstract phonological, classificatory (or "distinctive") features must, in accordance with the above considerations, be based on the universal, lower-level phonetic features. From a contrastive point of view, then, the situation is this: each language has at its disposal the same articulatory and perceptual possibilities, delimited by the species-specific anatomical, physiological and cognitive characteristics of man. In this perspective specific applied contrastive studies (cf. Fisiak 1973) of sound systems are faced with two obvious tasks: first, to find out the differences in the utilization of these potentials for functional[13] purposes in different languages, and second, to investigate the phonetic means by which the functional information is conveyed in these languages and the similarities and differences between them. It is a fragment of the first task that we are concerned with in the present section.

If the stop systems of Finnish and English are described in terms of classificatory features and notice is taken only of the minimal distinctions *within* the stop system in each language then the differences between the two systems can be visualized by the following graphic representations where each line corresponds to a distinction maintained by a difference in the specification of a single feature (/place of articulation/ being regarded as a single, multivalued feature in accordance with e.g. Ladefoged 1971 : 91ff.):



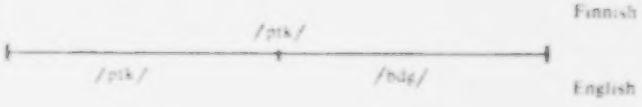
From the graphs it can be seen that Finnish /pk/ both participate in a two-way minimal opposition in the system, Finnish /t/ and /d/ taking part in a three-way and one-way minimal opposition, respectively. As regards Eng-

[13] The word "functional" could be given different scopes; in this paper it is interpreted to refer to the (phonologically) distinctive function.

lish, each of the six stops stands in a three-way minimal opposition within the system. Now, disregarding Finnish /d/ for a moment, it can be seen that similar interrelationships exist within the sets Finnish /ptk/, English /ptk/ and English /bdg/ with regard to the feature /place of articulation/. As for the distinction represented by the horizontal lines it can be seen that it only exists in the English system. Now it is one of the major claims of this paper that there are no purely formal criteria that would enable one to equate the Finnish set with either one of the English sets as there are no such features as are shared by the Finnish set and only *one* but not the other of the English sets, the horizontally represented dimension being vacuous in Finnish. Rather, we would have to conclude that both of the English sets *together* correspond to the Finnish one. This conclusion prevents us from making the kind of wrong predictions discussed in the preceding section (i.e. from equating Finnish /ptk/ with English /ptk/, an equation clearly inconsistent with empirical data) but, as was anticipated at the beginning of the present section, it fails to give a positive answer to the problem of equivalence. For we cannot be content with a laconic statement that Finnish /ptk/ are equivalent to as it were the sum total of English /ptk/ and /bdg/ as it is precisely the difficulty of Finns to differentiate between the two English sets that gives contrastive analyses of this kind a practical motivation in addition to the more theoretical ones. The interim conclusion gives us no hint whatsoever, for example, as to how a speaker of Finnish should alter his native habits of stop articulation to arrive at acceptable pronunciations of the English ones.

There is one further step, however, that might conceivably be taken towards a solution of the problem without resorting to the methods of empirical, experimental phonetics, namely the recognition and use of certain well-known general phonetic tendencies (the knowledge of which ultimately derives from the accumulation of data from direct observation). To illustrate the point it is sufficient here to refer to one such principle, viz. the tendency observable in languages to avoid making use of extreme articulatory configurations in the absence of a phonological motivation (or, the principle of least effort). Given that a maximally voiced stop and a maximally aspirated stop represent the two extremes on the voicing continuum (see e.g. Suomi 1976 : 65 - 68), the first tendency would predict that the stops of a language like Finnish would tend to be situated somewhere in between the two extremes. A direct parallel is offered by the dimension /front/-/back/ in /low/ vowels: in languages with a single /low/ vowel its phonetic realizations are usually more or less indeterminate with regard to the articulatory dimension front-back (e.g. German, Italian, Polish, Russian) whereas in languages with two /low/ vowels the distinction is (of course) maintained also phonetically, the vowels having distinct front and back articulations (e.g. English, Finnish and Swe-

dish). Notice that in languages of the first type the only /low/ vowel, despite its indeterminacy phonetically with regard to the front-back dimension, is usually classified (phonologically) as /front/ or (perhaps more often) as /back/. Analogically, then, we would predict that the two sets of English stops are situated, with respect to the voicing dimension, towards the voiceless and voiced extremes, respectively, away from the "neutral" position predicted for the Finnish stops. Or, to return to the graphic representation above, it could be assumed that the non-horizontal lines delimit the articulatory possibilities exploited in the two languages with regard to the place of production of stops and that the horizontal dimension reflects the scope of variation along the voicing dimension. The space delimited by the faces of the three-dimensional body could then be argued to encompass all the possible stop realizations in the two languages. Now the fact that each English stop stands in a three-way opposition to the others causes the stop realizations to tend to be located towards the corners of the body as both horizontal and non-horizontal distinctions must be maintained. In Finnish, on the other hand, the horizontal dimension being vacuous, there are no formal criteria that would help us predict anything about the location of the realizations of the Finnish stops on the horizontal dimension. To push the point even further, we could concentrate our whole attention on the core of the problem and depict the situation (disregarding the both theoretically and pedagogically non-problematic /place of production/ aspect) in the following way:



In this graph the horizontal line *in toto* reflects the potentials available (at least in principle) in both languages with regard to differentiation on the voicing continuum, the vertical line indicating its division for distinctive purposes (in English). Again, even such an utterly simplified description would prevent us from equating Finnish /ptk/ with English /ptk/. The (non-formally, i.e. substantively motivated) tendency just discussed, however, predicts that the Finnish stops tend to be scattered approximately half-way between the two extremes on the horizontal dimension. But here, again, we would be confronted by the same dilemma as before: we could not decide which of the two English sets of stops are equivalent to the Finnish one. And, to see the problem in its entirety, consider the fact that the /voiced/-/voiceless/ distinction is signalled by a wide variety of phonetic mechanisms in different languages. In Mandarin Chinese, for example, the /voiceless/ set is signalled by extensive aspiration, while the /voiced/ set is in fact usually phonetically

voiceless.[14] In a language like Polish, on the other hand, the former are realized as voiceless non-aspirates and the latter as extensively voiced stops, the two sets occupying positions on the voicing dimension clearly different from those of the English sets (for experimental data see e.g. Kopczyński 1977 : : 72 - 76). Thus different languages occupy different positions on the voicing continuum, obeying at the same time the principle of minimal effort to produce sufficient (but not maximal) separation of the two categories (cf. Suomi 1976 : 70 - 72).

It seems that we cannot proceed further in our analysis without resorting to an experimental phonetic analysis of the processes of production and perception in the two languages because otherwise, and this is the basic problem of contrastive analyses of sound systems performed in an arm-chair, we are always, at most, left with just predictions.

4

The last principle for stating equivalence of phonemes in different languages mentioned by Lehtonen is perceptual similarity.[15] In other words, to (in) validate our hypotheses we "must go to the very outskirts of linguistic processing, to the mechanism which is used by the speaker to transform the linguistic information of the phonological segment string into the actual speech signal, and to the mechanism which is used by the listener to detect the corresponding phonological information" (Lehtonen 1977 : 35). An attempt in such a direction was the present writer's analysis of the production of English stops by native and Finnish speakers (Suomi 1976). The results of the study, although preliminary and planned to be followed by a more detailed investigation of the articulatory and acoustic phenomena involved, indicate, among other things, the inability of the kind of contrastive analysis sketched in the preceding sections to predict many interesting and important characteristics of the interlanguage employed by a language learner. Thus, for example, it was found that advanced native Finnish learners of English exhibited extensive voicing of English /dg/ irrespective of their position in the word, in contradistinction to the less advanced learners who, under the influence of interference from the mother tongue, showed only moderate (and more random) voicing, and, what is more important, also in contradistinction to the

[14] The present situation being an outcome of earlier interplay between tonal and /voice/ features.

[15] The term "perceptual similarity" might be interpreted (although this does not seem to be Lehtonen's intention) to exclude studies of speech perception in favour of perceptual studies proper; to avoid this connotation the simple term "phonetic similarity" could be adopted.

native speakers who, conforming to the allophonic regularities of English, exhibited only moderate or no voicing in the word initial and final positions while having fully voiced stops only in the word medial position (for details see Suomi 1976 : 17 - 48).[16] Needless to say, these differences between the behaviour of the Finnish groups could not have been predicted *a priori*. An even more striking indication of the necessity of empirical validation is the fact that confusions in the perception of English by Finnish speakers occur not only between the stops (i.e. not only *within* the category /ptkdbg/) but also e.g. between stops and consonant clusters. Thus, for example, Finns often confuse English /t/ and /tr/, especially in a pre-stress position (as in the words *tie* and *try*) (Lehtonen, personal communication. The data come from a thesis study by R. Hänninen, to be published in Jyväskylä Contrastive Studies no 6.). The ability to predict such patterns of interference are far beyond the scope of a contrastive analysis based on phonological considerations only, and, moreover, they are easily overlooked even in empirical investigations if, for example, the subjects in an identification test are given a choice of possible answers predetermined, very often, by the intuitions of the researcher.

It may well turn out that the special problem discussed in this paper, the question whether Finnish /ptk/ are equivalent[17] to English /ptk/ or English /bdg/, remains unsettled even after the application of the fourth criteria. The results of Moisio and Valento (1976) and Suomi (1976), although perhaps showing a weak tendency in favour of English /bdg/, certainly do not justify us to give an unequivocal answer in one direction or the other. It is possible, in other words, that we have to be content with the answer arrived at in section (*d*) above, viz. that Finnish /ptk/ are equivalent to *both* English /ptk/ *and* English /bdg/. In this future situation, however, having performed detailed investigations of the phonetics of the stops of the two languages, we are on a much firmer ground than before as we then have empirical data to support our contentions. This deepened knowledge can also be expected to serve as a basis for constructing better pedagogical techniques for Finnish learners of English.

To sum up, the main theses of this paper are: first, that phonology, to be useful for the purposes of contrastive analysis, must be phonetically based and not too abstract, and second, that the validity of the predictions arrived at

[16] The behaviour of the more advanced Finnish learners of English can be interpreted as an instance of overgeneralization of a TL rule.

[17] The reader may have noticed the rather free use of wordings like "correspond to", "are equal to", "are comparable" etc. in the earlier parts of this paper. These are the terms used in the studies quoted, and no need was felt to introduce the more technical term "equivalence" until an attempt had been made to elaborate its meaning more precisely.

a priori must be checked against empirical data about the actual speech behaviour in an actual language contact, e.g. in the speech of bilingual speakers (for similar demands for objective testing of contrastive analysis hypotheses see Dimitrijević 1977). What is propounded here is in fact an amalgam of traditional contrastive analysis and error analysis.

What are the ultimate criteria of equivalence of phonemes? On the one hand, they can be said to be extralinguistic insofar as they are referable to the universal anatomical properties of the speech producing apparatus. On the other hand, it is evident that some kind of categorization takes place in speech perception. It is very difficult and may even turn out to be impossible to assess whether the perceptual features used as a basis for this categorization are linguistic or not: due to the constant interplay between and mutual interdependency of form and substance in the evolution of language as a means of communication the linguistic and non-linguistic aspects of speech perception are inextricably interwoven (for a somewhat different view of the nature of the features see Lehtonen 1977 : 36 - 37). Phonetics is a branch of linguistics studying the one end where language (as a system of rule-governed behaviour) is in contact with the objective world, connecting linguistic entities with physical phenomena, both physiological and acoustic (which again are clearly non-linguistic in nature). Consider a parallel, by now well-agreed-upon case from the opposite end of the language system: code-particular, system-internal (structural) criteria cannot be used for stating equivalence between utterances in different languages. The *tertium comparationis*, the universal frame of reference must be sought from outside the particular codes of the languages compared, from semantics, the other point of direct contact between language and the objective world (although here, too, it is difficult to draw a sharp demarcation line between linguistic and extralinguistic features used by us to categorize the world, consider e.g. the Whorf hypothesis). Thus, given the fact that languages are different codes capable of expressing the same contents by using the same channel, we cannot expect to find equivalence in the codes themselves but from the two "sames" connected by the codes.

Finally, I should like to stress the fact that the kind of contrastive analysis of sound systems outlined above is not a new idea: for an early example of an analysis on similar lines see the comparison of Finnish and English vowels by Wiik (1965).

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TOWARDS A PEDAGOGICAL CONTRASTIVE PHONOLOGY

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1. Since the publication of *The sound pattern of English* (Chomsky and Halle 1968) generative phonology has undergone a number of modifications and it is now represented by a variety of models like (1) Upside-down phonology (Leben 1977), (2) Atomic Phonology (Dinnsen and Eckman 1977), (3) Autosegmental Phonology (Goldsmith 1976), (4) Natural Generative Phonology (Hooper 1976; Vennemann 1974). Generally speaking, these models have drifted away from the abstract systematic phonemic level of the Chomsky-Halle type, e.g. Hooper's (1976 : 155 - 156) analyses look almost like taxonomic phonology. Similarly, Crothers and Shibatani's phonology "is closer to Praguian conception than to generative phonology" (Crothers and Shibatani 1975 : 526). The more abstract model still has its followers (cf. Kenstowicz and Kisseberth 1977) in spite of very discouraging results in the search for evidence to support the existence of abstract underlying representations (cf. Ohlander 1976). In my opinion there is enough evidence to reject the abstract systematic phonemic level as psychologically, and therefore also pedagogically, unmotivated. The model of Pedagogical Contrastive Phonology presented here is based on a more concrete phonemic representation level which finds strong support from experimental evidence.

2.1. Chomsky and Halle maintain that the abstract phonemic representations (and implicitly the phonological rules) they postulate "underlie their [i.e. the speaker and the hearer] actual performance in speaking and 'understanding' "(Chomsky and Halle 1968 : 14). Generative phonologists have presented various types of evidence to support this claim, e.g.

(a) language change (Kiparsky 1968a, 1973)
(b) the adaptation of loan words (Hyman 1970)

(e) understanding of other dialects (Chomsky and Halle 1968; Stevens and Halle 1967)
(d) orthography (C. Chomsky 1970; Chomsky and Halle 1968)
(e) metrical evidence (Anderson 1973; Kiparsky 1968b, 1972)
(f) language games (Scherzer 1970)
(g) aphasia (Schnitzer 1972)
(h) slips of the tongue (Fromkin 1971)
(i) experimental evidence (Moskowitz 1973)

The arguments of generative phonologists were discussed in detail by Linell (1974), who demonstrated that the data provided no convincing evidence for the existence of the systematic phonemic level. All the problems can be given even more plausible solutions without any reference to an abstract phonemic level (Linell 1974 : 125 - 146; cf. also Awedyk in press) and generative phonologists themselves admit that there is very little evidence to support their analyses (cf. Kenstowicz and Kisseberth 1977 : 61).

2.2. Being unable to present positive evidence, generativists often claim that a theory is confirmed if it makes correct predictions and, consequently, such a theory mirrors the psychological reality. For example, Kiparsky (1968a : : 171) stated: "For many features of universal grammar there is justification enough in the fact that without them it would simply not be possible to write grammars that account for the sentences of a language".

The "how-else" argument is expressed either explicitly or implicitly by many generativists (cf. Botha 1971 : 125 - 127 for discussion). For example, Anderson (1973) discussed *ǫ/a* alliterations in Skaldic verse, e.g. *ǫndurr* "ski"/ /*landi* "land" (dat. sg.). Anderson concluded that the only possibility of explaining the *ǫ/a* alliterations would be to represent *ǫ* as *a* in the underlying representation, i.e. to derive *ǫndurr* from /andur+r/ (the *ǫ* in *ǫndurr* comes from an earlier *a* by the u-umlaut rule). Later poets do not, however, alliterate these two sounds and Anderson was forced to give an *ad hoc* solution for this. According to him, Snorri Sturluson "lost sight of the more abstract components of the grammar" (Anderson 1973 : 11) because he was influenced by the First Grammarian's taxonomic phonemics (cf. Haugen 1950) and Snorri Sturluson in turn influenced later poets. Anderson did not answer the basic question why the First Grammarian wrote a taxonomic and not a generative phonology of Old Icelandic.

The *ǫ/a* alliterations were possible in Skaldic verse since those two sounds were phonetically similar: *ǫ* was an *a*-sound with lip rounding. Around 1200, *ǫ* changed into [œ] and from then on it was not alliterated with [a] (cf. Heusler 1950 : 13). Thus the fact that Anderson's solution explains the *ǫ/a* alliterations does not mean that it is correct. Linell (1974 : 147) rightly argues: "A

theory can 'account for' observable phenomena correctly and be false at the same time. Inferring the truth of the antecedent from the truth of the consequent is a very elementary logical error". Moreover, since both the input, i.e. the underlying representations postulated by generativists, and the output are given, one can manipulate the rules in such a way that the model will always account correctly for all the utterances of a language.

3.1. The discussion of the *o/a* alliterations in the preceding paragraph shows that it is practically impossible to demonstrate the existence of the abstract underlying representation level. It was hoped that experiments would validate the abstract analyses, for example, Moskowitz (1973) performed a number of experiments to test Chomsky and Halle's theory of the Great Vowel Shift. She worked with two groups of children, one aged 5 - 7, the other 9 - 12. The children were asked to form nonsense words according to the following patterns:

(1) [āy] ~[ī]
(2) [īy] ~[ī]
(3) [ēy] ~[ī]

The subjects were instructed to form longer words than those they heard, as in the leading example: If I say [pāyp], you should say [pīpiti], etc. Pattern (1) involves the rules of diphthongization, vowel shift, and laxing. In pattern (2) only two rules operate: diphthongization and laxing, and in pattern (3), three rules: diphthongization and laxing as well as an incorrect vowel shift rule /ī/ → /ē/, i.e. the rules /ē/ → /ǣ/ and /ǣ/ → /ā/ were not applied.

The older children had the least difficulty with (1), and (3) was less difficult than (2) for some children, while all three paterns were almost equally difficult for the younger subjects. One of the conclusions that Moskwitz drew from her experiments was as follows: "The vowel-shift rule is not separable from rules of tensing and diphthongization..." (Moskowitz 1973 : 249). She does not, however, come to the obvious conclusion that neither the underlying representation level nor the phonological rules of the Chomsky and Halle type exist and that [āy] simply alternates with [ī] in cognate forms on the phonetic representation level. Thus, contrary to Moskowitz's intensions, her experiments provide evidence against abstract analyses.

3.2. Similar experiments were performed by Steinberg and Krohn (1975). Their subjects were asked to form words by adding suffixes *-ic*, *-ity*, *-ify*, *-ian* to a base word, e.g. *maze+-ic/-ity*. Less than 4% of all responses showed the change of the vocalic segment as predicted by Chomsky and Halle (1968 : : 188) and 90% exhibited no change of the vocalic segment in novel derived forms. Steinberg and Krohn assert that, contrary to Chomsky and Halle's

hypothesis, the Vowel Shift Rule is non-productive in Modern English and consequently the abstract underlying representations are non-existent, too. In their opinion, teaching materials and techniques cannot, therefore, be based on Chomsky and Halle's analysis of English.

In Ohala's (1974) experiment, the subjects were requested to produce derivatives from *obtain* and *pertain* with suffixes *-ion* and *-atory*. Examples of the use of each suffix were first given to the subjects. When primed with *detain ~ detention*, 18 out of 26 subjects changed the stem vocalic segment in *obtain+-ion* from [ey] to [e]. When primed with *explain ~ explanatory*, most subjects left the stem vocalic segment unchanged, but 10 subjects changed it into [æ], i.e. [əbtænətəri]. Ohala concludes that this experiment shows the invalidity of the abstract underlying representation level and that the speakers form novel derivations by analogy to the known patterns, e.g. knowing the [k] ~ [s] alternation in *critic ~ criticize*, the speaker forms in one step *sputnicize* from *sputnik* (Ohala 1974 : 374).

3.3. The above experiments raise the problem of the productivity of phonological rules. Krohn (1972) suggests that there are degrees of productivity. For example, according to the Vowel Shift Rule, the alternation in *sane ~ sanity* is regular while the alternation in *detain ~ detention* (instead of **detantion*) is irregular. In the speech of children and language learners as well as in slips of the tongue "there is absolutely no tendency for the vowel shift rule to apply to *detain+ion*, thereby regularizing it to **detantion*" (Krohn 1972 : 18). His conclusion is that the Vowel Shift Rule is a minor rule in Modern English.

Native speakers of English regularly apply, however, the vowel alternation rule in derived forms like *sanity* from *sane* and a grammar English must account for native speakers' knowledge of those rules. Crothers and Shibatani (1975 : 156) suggest that they simply learn the two alternating forms independently (similarly Braine 1974 : 292 - 294). According to this hypothesis, native speakers have lists of pairs of words in their lexicons marked for a particular alternation, i.e. they have to know which alternation pattern a pair of words belongs to, in order to produce correct derivations and to avoid mistakes like **detantion*. Generative phonologists have not demonstrated how their abstract representations and phonological rules may be acquired, simply because they are not learnable (cf. Ohlander 1976 : 121).

4.1. A model of phonology based on Baudouin de Courtenay's theory (1894) accounts better for the native speakers' knowledge of their language than generative phonology. According to this theory, phonemes, defined both in articulatory and corresponding accoustic terms as psychological equivalents of sounds, as well as productive ("psychophonetic") phonemes alternations in related morphemes are psychologically real. There are two basic principles of his theory of alternations [all translations are mine — W. A.]:

(1) Strictly speaking, the alternating units ... are not phonemes but morphemes as language units indivisible from the semantic point of view. ... The phonetic alternation of morphemes is reducible to the alternation of single phonemes which are phonetic components of morphemes. Thus, there is an alternation between morphemes, on the one hand, and between phonemes which constitute morphemes, on the other" (Baudouin de Courtenay 1894: 237 and 238).

(2) Such a variation or alternation is neither a phonetic change in the present nor a historical succession. It is simply a case of phonetic difference between morphemes etymologically identified" (ibid.: 249; in the original the whole text is emphasized — W. A.).

The psychological reality of the taxonomic phoneme is well motivated (cf. Ohlander 1976 for discussion) both in non-pathological, e.g. in language acquisition (cf. Skousen 1975), and pathological language behaviour, e.g. in aphasia. Dressler (1977 : 52) points out that aphasic patients may substitute one phoneme for another but never one allophone for another allophone of the same phoneme. MacKay (1970) describes an interesting phenomenon of non-pathological stuttering when one phoneme occurs twice in the neighbourhood, e.g. *muss man* may become *m-muss man*. A similar phenomenon (masking) is the omission of segments under certain conditions, e.g. *Friedrich* becomes *Friedich* (MacKay 1969).

Phoneme alternations in related morphemes form a network of patterns and native speakers must learn those patterns and the members, i.e. pairs of words, of each pattern. The division is not simply into productive and non-productive alternations but they are hierarchically ordered according to functional load, frequency, etc. (cf. Baudouin de Courtenay 1894 for his classification). The best motivated rules of alternation are those which are phonetically conditioned (cf. Crothers and Shibatani 1975: 516 - 526) since those rules are also most easily acquired by speakers.

4.2. The speaker's lexicon is not, however, a register of alternation patterns and lists of words which undergo a particular alternation, but it has a complex organization. Fromkin (1971) postulates seven sub-parts of such a lexicon:

(a) A complete list of formatives with all the features specified, i.e. phonological, orthographical, syntactic, and semantic.
(b) A subdivision of phonological listings according to the number of syllables. This is necessitated by the fact that speakers can remember the number of syllables of a word without remembering the phonological shape of the syllables. This is also suggested by the fact that one can get a subject to produce a list of one-, two-, and three-syllable words.
(c) A reversed dictionary sub-component, to account for the ability of speakers to produce a list of words all ending in a particular sound or letter.
(d) A sub-component of phonologically grouped syllables, to account for the ability of speakers to form rhymes.

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(e) Formatives grouped according to syntactic categories, to account for ... the ability of speakers to list nouns, or verbs, or adverbs on command, as well as the more important ability to form grammatical sentences.
(f) Formatives grouped according to hierarchical sets of semantic classes.
(g) Words listed alphabetically by orthographic spelling.

Furthermore, it seems plausible to assume that all these components must be intricately linked in a complicated network" (Fromkin 1971 : 237 - 238).

Linell (1974 : 49) suggests "that for each speaker there is one PCIS [Psychologically Central Invariant Structuring] for each word". He does not claim, however, that all speakers have the same PCISs (the structuring may depend, for example, on the style of speaking the speaker is confronted with) or that the PCIS is the only phonological structuring of a word. Similarly, M. Ohala's (1974) experiments show that speakers may store lexical items in different forms.

Naturally, it is not known exactly in what form the words are stored in the speaker's brain and how the rules of phoneme alternation operate and interact (cf. Arnoff 1976 for recent concepts of word formation in generative phonology). Well-planned experiments are needed to discover and describe the speaker's system of grammatical rules since not all processes are deducible from surface phenomena. Linguists will certainly profit from a co-operation with psychologists and neurologists and "linguistics will become more interesting if it can be shown to be relevant for psychology (and vice versa)" (Linell 1976 : 92).

5.1. Grammars should account for the complex network of phonological, morphological, syntactic, and semantic relations in language which both native speakers and foreign language learners are confronted with. The other solution is an elegant and simple description which will not account for processes underlying first and second language acquisition (cf. Awedyk 1976 : 53 - 54; Ohlander 1976 : 113 - 120). Pedagogical Contrastive Phonology, as a part of a Pedagogical Contrastive Grammar, will serve as a basis for selecting teaching materials and techniques. It will contain two sub-components:

(1) a phonological sub-component, i.e. a contrastive analysis of segments of the languages in question and their realization in words (allophonic rules),
(2) a morphophonemic sub-component, i.e. a contrastive analysis of alternation patterns (morphophonemic rules).

The two sub-components present different teaching and learning problems, e.g. Polish speakers learning English may apply a final devoicing rule of Polish and produce *[bik] instead of [big] *big*. They are, however, very unlikely, to produce *[stɔ : lz] instead of [stu : lz] (plural of *stool*) by applying a morpho-

phonemic rule characteristic for the alternation in [stuw] *stół* "table" ~[stowi] *stoły* "tables". Taxonomic phonology concetrated on the phonological sub-component and what is needed now are systematic contrastive studies of the morphophonemic sub-component.

5.2. Teaching materials in manuals will be systematized in such a way as to help the language learner to internalize the phonological system of a language. The learner who has been provided with the knowledge of the patterns of alternation rules will be able to produce novel forms. The possibility of making a mistake should be reduced to a minimum but wrong derivations will not be blocked completely. Even native speakers make mistakes since language acquisition is a continuos process which never ends (cf. McCawley 1968).

Language learning involves abduction: "Abduction proceeds from an observed result, involves a law, and infers that something may be the case. ... The conclusions reached by abductive inference afford none of the security offered by induction and deduction" (Andersen 1973 : 768). This provides a criterion for the evaluation of grammars and that grammar will rank higher which leaves the narrowest margin between abductive inference and correct predictions.

5.3. The model of a Pedagogical Contrastive Phonology outlined here is based on the following assumptions:

(1) the phonemic level is more concrete than that postulated by generative phonologists,
(2) morphophonemic rules are not abstract, either, e.g. the Vowel Shift Rule is a one-step rule changing, for example, the diphtong of an adjectival form like *divine* into a simpel vowel in the nominal form like *divinity*.

As can be seen from the above discussion, abstract analyses postulated by generative phonologists are unmotivated either from the psychological or from the pedagogical point of view.

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CONTRASTIVE STUDIES AND INTERLANGUAGE

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The term *interlanguage* (IL) is understood here as the language of the learner who is in the process of acquiring a given foreign language. In our case it is the English language used by Polish learners. In this sense IL was introduced as a concept by L. Selinker (1972) and it resembles the notions of *approximative system* and *idiosyncratic dialect* introduced by W. Nemser (1971) and by S.P. Corder (1971) respectively.

From the point of view of description IL can be treated like any dialect or register but one has to remember two features which make it different from other linguistic phenomena.

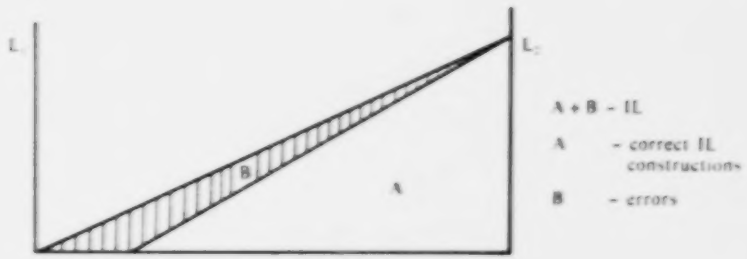

Figure 1

I. IL is not a complete system. It is a system which is being built. In this respect it resembles child language and these two phenomena have many features in common.

II. The most characteristic feature of IL is its erroneous constructions. The presence of errors provides IL with its unique status. Some authors are

inclined to treat IL analysis and error analysis as the same field. One of them is S. P. Corder (1971).

> "What has come to be known as 'Error Analysis' has to do with the investigation of the language of second language learners.
> ... the language of such a learner, or perhaps certain groupings of learners, is a special sort of dialect." (Corder 1971 : 147).

This kind of approach is very important from the point of view of the economy of description. We concentrate only on the deviant constructions (deviant from the point of view of L_2) since they are responsible for the idiosyncratic character of IL. One could, of course, undertake some other kind of IL studies e.g. stylistic studies and concentrate on the description of A. This kind of research, however, would be less economic. It would have to consider a much bigger corpus. The studies of A would not tell us much about the processes occurring in second language acquisition. We receive this information from the study of errors.

The role of error analysis is different from what it used to be. According to George (1972 : 189):

> "at the beginning of the sixties the word *error* was associated with *correction*, at the end with *learning*."

The sources of errors are numerous and some errors can be predicted by Contrastive Studies (CS).

It has been agreed that CS can predict or explain only those errors which originate from the native tongue. However we do not share this opinion. In this paper we would like to concentrate on two types of errors which are of L_1 origin and we would like to show the role of CS in connection with these errors. The errors presented below are the result of negative transfer. Errors of this category are easily recognizable by error analysts but unfortunately the analysts do not go beyond labeling or counting them.

The notions of transfer and negative transfer were borrowed from psychologists and introduced to the field of foreign language learning. Unfortunately the notion of transfer in language learning has not been as well described as some other psycholinguistic phenomena. The aim of this paper is to show some aspects of transferring L_1 habits into IL.

The influence of L_1 is especially well illustrated in the errors caused by the transfer of Polish phraseological rules. In the following examples

Chciałbym	mieć	tę książkę.	I would like	to have this book.
	mieć	dwadzieścia lat.		to be twenty.
	mieć	tę pracę.		to get this job.

Polish *mieć* is rendered by English *have*, *be* and *get*.

A situation like this is a source of errors where *have* for example, may be used instead of *be* or *get*. The contexts of Polish *mieć* only modulate its meaning (c.f. Lewicki 1976), whereas in the case of English, the contexts *this, twenty years old* and *this job* require different verbs. Learners unaware of these rules apply Polish rules to the above contexts and as a result they produce:

When I *have* 19 years ... (When I *am* 19 years old)
I must finished the study earlier and *have* a job
(I must finish my studies as soon as possible and *get* a job)

In the case of the above errors the L_1 meaning is transferred by a translation equivalent which we shall call *primary counterpart*. Primary counterpart is the equivalent which in the process of foreign language learning is acquired to render the common meaning of a given L_1 lexical item. In situations when a learner produces an L_2 utterence sticking to L_1 rules he would use primary counterparts to render a given L_1 construction. Primacy, in this case, is a matter of statistics. In a great majority of cases Polish *mieć* is rendered by *have* and only some contexts in English require *get*, *be*, etc. Whenever these contexts occur the usage of a primary counterpart will be erroneous.

Since in the majority of cases Polish *mieć* translates as *have* it will most probably be introduced as a translation equivalent of *mieć* before the other equivalents. This will enable the learner to acquire *have* as a primary counterpart of *mieć*. The *have-mieć*, being more common than other *x-mieć* relationships, will occur more often in the texts to which a learner is exposed. In this situation a learner will be exposed to *have-mieć* with greater intensity than to other equivalents of *mieć*. It is both the order and the intensity with which a given L_2 equivalent is introduced which are responsible for its acquisition as a primary counterpart.

In Polish-English IL preposition errors are very numerous. The main reason for this situation is the fact that a given surface L_1 preposition would have many surface structure counterparts in L_2. Underdifferentiation between these counterparts leads to errors. The following list presents some counterparts of the Polish preposition *w*, which in turn may be counterparts of the Polish preposition *na*.

w lesie		in the woods
w szkole		at school
w środę		on Wednesday
w dzień		by day
w lewo		to the left
w kapeluszu		with his hat
w bek	(burst)	into tears
(słowo) w słowo	(word)	for word

The above English prepositions in different syntactic functions and in different contexts may render Polish preposition *na*.

in the coalmine	na kopalni
at a signal	na sygnał
on a motorcycle	na motorze
by Saturday	na sobotę
to dinner	na obiad
(be ill) with the measles	na odrę
(divide) into parts	na części
for a walk	na spacer

The list which presents translation counterparts of only one Polish preposition which are at the same time counterparts of another L_1 item shows how complicated the prepositional system of English is for Poles. Using the data from the list we can predict the hypothetical number of underdifferentiation errors likely to be made by Poles. The number can be calculated by the following formula (Arabski 1968):

$$S = N^2 - N$$

where N stands for the number of L_2 constructions rendering a given L_1 construction. There will be 112 wrong substitution errors (56 for each Polish preposition) in using *w* and *na* English counterparts.

The above formula shows that from the point of view of CS, where one compares languages without the consideration of learning and teaching processes, every translation equivalent of Polish *w* has an *equal chance* of being accepted by a learner as a counterpart of *w* and of being used instead of other counterparts. Since *w kapeluszu* translates by *with a hat*, *with* may be picked up as the only equivalent of *w* and be used instead of *in*, *at*, *on*, etc.

Using the data from the list *with* may represent 8 different prepositions in the same way that every other preposition may represent the same 8 items from the list. This would give us 64 combinations (8×8). We have to subtract from this number the usage of *with* instead of *with* or *in* which are not erroneous forms (minus 8). This calculation leaves us with 56 combinations of possible error types.

In practice, however, it does not work this way. Polish *w lesie* (*in the woods*) is very unlikely to be translated as *with the woods* and it is very likely to be rendered in IL as *at the woods*. A learner in his process of L_2 acquisition learns that a given meaning of a Polish item, e.g. *w* is rendered by English *in*. Hypothetically from this time on every occurrence of Polish *w* will be rendered by the learner as *in* (with the exception of those phrases which are correctly acquired and do not occur in IL as a result of translation from Polish). In a situation like this a learner sticks to his L_1 system and transfers it into IL

by an item which we have called a ***primary counterpart***. A primary counterpart is an item which in IL represents the whole group (list) of L_2 translation equivalents and thus causes underdifferentiation errors.

It changes its character throughout the process of language acquisition, i.e. during IL development. Using the example of *in* representing the whole list of *w* counterparts we can say that in the course of IL development *in* represents a smaller and smaller number of L_2 prepositions. In the course of Target Language acquisition a learner acquires the proper usage of each of the *w* counterparts until *in* represents only itself (the correct usage). Shown below is the hypothetical model of this process.

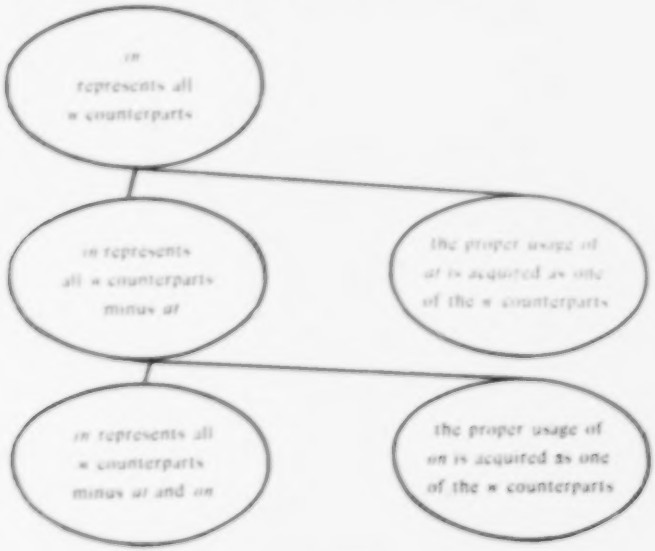

Figure 2

The above underdifferentiation process can also be classified as a simplification and it occurs also in pidgins and creoles discussed by E. C. Traugott (1974). The Niger-Kongo pidgin language Sango renders English *at, in, on,* by Sango *na* (the similarity in sound with Polish *na* is purely coincidental) (c.f. Traugott, 1974 : 274).

Acquisition of a given construction is a process. It does not occur in a given moment. There is a period of time when the same construction is sometimes used properly and sometimes erroneously. This may be illustrated by the examples from two tests a week apart taken by the same learner.

Someone *to* whom I'd have to prepare meals. (*for* whom I would ...)
Someone *for* whom I'd have to prepare meals

One could argue that a *primary counterpart* is an individual phenomenon. A given learner may be first exposed or exposed with a bigger intensity to e.g. different *w* counterparts from another learner. As a result these two learners would acquire different counterparts for Polish *w* in their ILs.

This again is only partly true. In an organized school teaching process all the learners are exposed to the same materials and textbooks. Also teaching materials always present certain constructions first and thus enable the learners to acquire them as their primary counterparts. *In the classroom* and *on the shelf* are likely to be introduced before *word for word* and *be ill with the measles*.

The errors found in the corpus support the above hypothesis. The *w* counterparts are represented by *in* and Polish *na* is mostly rendered by *on*.

Besides, it is difficult, in my opinion, to be a good father and a good husband and a good student *in* the same time. (*at* the same time)
My husband could not help me *in* the housework. (*with* the housework)
He disappears *in* the door (*through* the door)
The problem of money is very real *in* student married couples. (*for/among* student married couples)
Marriage *in* the time of study can be a new problem. (Marriage *during* one's studies)
I wish study *on* the University (*at* the University)
I have time *on* marriage (*for* marriage)
results *on* this field (try to attain the best possible
I have only one answer *on* this question (*to* this question)
results *in* this field)
You should concentrate on it and try to have the best results *on* this field (try to attain the best possible results *in* this field)

Most confusion observed in IL concerns underdifferentiation of *in* and *at*. The syntactic functions of *in* and *at* are similar, e.g.,

He married *in* old age.
He married *at* a young age.

and sometimes they are interchangable:

They live *in* Stirling.
They live *at* Stirling.

This syntactic and semantic closeness is an additional factor causing underdifferentiation errors.

I think that marriage *in* young age depends on great love (*at* a young age)
I wrote it *in* the beginning of my paper (I wrote this *at* the beginning)
Being a married woman is a pleasure, especially when husband can help *at* studies (when a husband can help *in/with* one's studies)

The substitution of L_2 prepositions by their IL primary counterparts is only one aspect of the transfer of the Polish prepositional system. As soon as a primary counterpart of a given Polish preposition is acquired, a learner begins to use Polish contructions with their English counterparts. This may lead to erroneous expansions or to omitting prepositions in English phrases which from the point of view of preposition usage are Polish constructions with English lexical items.

Są | *w* | tym samym wieku.
They are | *in* | the same age. (They are the same age)
Nie mogę pozwolić sobie | *na* | małżeństwo.
I can't afford | *on* | marriage.
(I cannot afford to marry)
Nie mogą poświęcić | swoim dzieciom | tyle czasu ile potrzeba.
They cannot devote | their children | as much time as necessary.
(devote as much time as is necessary *to* their children)

Larry Selinker (1972) distinguishes five central processes which occur in IL. They are "language transfer", "transfer of training", "strategies of second language learning", "strategies of second language communication" and "overgeneralization of target language linguistic material". According to H. G. Widdowson (forthcoming)

> "all of the processes which Selinker refers to are tactical variations of the same underlying *simplification* strategy and ... in general error analysis is a practical account of basic simplifying precedures which lie at the heart of communicative competence and which are not restricted to people engaged in the learning of a second language system."
>
> (italics mine)

The above mentioned errors are typical representatives of language transfer. Our aim was to show how language transfer is technically realized. We also wanted to show how simplification strategy works technically.

According to Widdowson the simplification strategy is not restricted to foreign language acquisition. We have already mentioned the case of simplification in the pidgin language Sango. The notion of *overextention* in child language can also be treated as simplification. It is a well known process of using e.g. *dog* to range over dogs, cats, cows, horses, sheep, etc. (see Clark 1973). Looking for analogies we could go further and see the development of child language in terms of Piaget's theory of learning (Clark 1975 : 312):

> "For Piaget, the central processes of learning, the functional invariants, include assimilation and accommodation. According to this view the child is born with a very limited set of behaviour patterns or schemata, which he seeks to assert on any object he encounters. For instance, he will try to suck blankets and fingers

as well as the nipple or a teat. This process, whereby the child seeks to encompass an available object into an activity schema, is called assimilation. While trying to assimilate these objects to his schema, the infant discovers that he has to open his mouth in a different way to suck different objects, so his schema becomes differentiated as a result of interaction with his environment. This process is called accommodation."

The notion of *primary counterpart* (*in* functioning as *in*, *at*, *on*, *with*, etc.) can be compared with *overextention*, which is a linguistic counterpart of Piaget's *assimilation*. The development of the IL prepositional system presented in figure 2 (differentiation process) may in turn be compared to Piaget's notion of *accommodation*.

In light of the above discussion, *primary counterpart* is the lexical or grammatical construction transferring L_1 construction into IL. When we deal with one to one correspondence between L_1 and L_2 (congruent constructions) the transfer is positive and results in the acceptable L_2 construction.

Tom jest dzielny.= Tom is brave.

Whenever L_1 item is rendered by more than one translation equivalent one of these equivalents will be selected to act as a *primary counterpart* and thus will simplify L_2 system. As we can see, language transfer occurs with those constructions which are simpler in L_1. By simpler constructions we mean here those which represent a wider semantic range. In the process of IL development they undergo differentiation.

The errors presented above cannot be described in terms of their origin without realizing the differences existing between Polish and English prepositional systems. CS enable us to comprehend the source of difficulties manifested by language errors. Their role however, is explanatory. CS cannot predict the type of error, since it depends on input and intake in the process of foreign language teaching and learning. It is this input and intake which play the decisive role in selecting a given item as a *primary counterpart*. CS, being involved in the comparison of L_1 and L_2 systems, cannot predict all the circumstances in which these two systems are put in contact. CS do not consider the quantitative aspect of the described constructions and this aspect also governs the role of a given L_2 construction in IL.

The notion of prediction itself applies to phenomena which are about to happen in the future. The difficulties in the acquisition of English by Poles are taking place *now* in hundreds of schools, evening courses, private tutorials and at the Universities. They occur in every situation where English is taught and learnt. In order to learn about them one should study these difficulties. There is no need to predict them like there is no need to predict today's weather.

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PL ISSN 0137-2459

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